

World Maritime University

The Maritime Commons: Digital Repository of the World Maritime University

World Maritime University Dissertations

Dissertations

2000

Assurance of seafarer's quality : implementation of the ISO 9002 quality system in a crew manning agency

Jing Min Shi

World Maritime University

Follow this and additional works at: http://commons.wmu.se/all_dissertations

Recommended Citation

Shi, Jing Min, "Assurance of seafarer's quality : implementation of the ISO 9002 quality system in a crew manning agency" (2000). *World Maritime University Dissertations*. 266.
http://commons.wmu.se/all_dissertations/266

This Dissertation is brought to you courtesy of Maritime Commons. Open Access items may be downloaded for non-commercial, fair use academic purposes. No items may be hosted on another server or web site without express written permission from the World Maritime University. For more information, please contact library@wmu.se.

WORLD MARITIME UNIVERSITY

Malmö, Sweden

ASSURANCE OF SEAFARER'S QUALITY

--Implementation of the ISO 9002 quality system

in a crew manning agency

By

SHI JING MIN

P. R. China

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE

in

SHIPPING MANAGEMENT

2000

Declaration

I certify that all the material in this dissertation that is not my own work has been identified. The contents of this dissertation reflect my personal opinions and are not necessary endorsed by the university.

Signature:

Date:

Supervised by:

Name: Jan Horck

Office: Lecturer

Institution/organisation: World Maritime University

Assessed by:

Name: Rajendra Prasad

Office: Lecturer / Research Associate.

Institution/organisation: World Maritime University

Co-assessed by:

Name: Leif Jäger

Office: Lead Auditor

Institution/organisation: Det Norske Veritas

Acknowledgements

I owe gratitude and sincere thanks to the Cosco Manning Cooperation Inc. for nominating me and for providing financial support for my studies at World Maritime University in Malmö.

I would like to thank Dr. Shuo Ma and Captain Jan Horck for providing me with guidance and experience in completing this dissertation. My thanks go once again to Cosco personified through Mr. Li Shan Min, the managing director of Cosco Manning Cooperation Inc., and Mr. Shen Zhao Qi, the senior advisor of Cosco Group and a visiting professor of WMU, for their unconditional support in the early stages of my career, before I was enrolled at WMU.

Finally, I have to thank my family for their encouragement and support, and my friends and colleagues for the wonderful time we have spent together in Sweden and during our field studies.

Abstract

Title of dissertation: Assurance of seafarer's quality – Implementation of the ISO 9002 quality system in a crew manning agency.

Degree: MSc

With ever growing concern about the responsibility of management for safe ship operation and the size of the financial penalties now imposed for pollution of the environment, it is essential that more direct and/or indirect attention are given to the professional standards and qualifications of international seafarers. SOLAS, ISM Code and STCW'95 have been developed to ensure the quality and competence of seafarers. These instruments require government authorities, training centres, maritime academies, shipping companies, and ship managers to perform and carry out responsibilities to ensure the quality of seafarers.

Crew manning agencies play an important role in the employment chain of seafarers. About one third of seafarers are supplied by crew manning agencies to the international fleet. Nowadays, no mandatory rules and conventions exist for the crew manning agencies. How does the shipping industry ensure their quality? What important role is the playing in the industry? How do they ensure the qualification of seafarers and related services?

The author considers the implementation of the ISO 9002 quality assurance system as a solution to these problems. Therefore, in this dissertation, he discusses the implementation of the ISO 9002 system in a crew manning agency, including the principles and practical processes. Before embarking on this, a summary of international seafarers worldwide, including supply and demand of seafarers, education and qualification of seafarers, related international conventions, is discussed briefly.

Table of content

Declaration.....	I
Acknowledgements.....	II
Abstract.....	III
Table of content.....	IV
List of appendix, figures and tables.....	V
Chapter 1. Introduction.....	1
Chapter 2. Demand and supply of international seafarers.....	4
Chapter 3. International conventions.....	8
Chapter 4. The crew manning agency.....	12
Chapter 5. ISO 9002 in crew manning agency.....	20
Chapter 6. Quality manual.....	26
Chapter 7. Quality procedures.....	44
Chapter 8. Recommendations and conclusion.....	64
Bibliography.....	72

List of appendices, figures and tables

1. Figure 4.1 Flow chart of crew employment.....	16
2. Table 4.1 Statistics of shipmanagers in the world.....	17
3. Table 4.2 DNV certification of crew manning offices.....	18
4. Appendix 6.1 Sample of definitions of a quality system.....	39
5. Table 6.1 Sample of a correlative list.....	40
6. Figure 6.1 Sample of an organisation chart of a crew manning agency.....	41
7. Table 6.2 Sample of an interrelationship chart.....	42
8. Appendix 6.2 Sample of a quality policy of a crew manning agency.....	43
9. Table 7.1 Sample of a contract review form.....	60
10. Table 7.2 Sample of a document list of a crew manning agency.....	61
11. Table 7.3 Sample of a notice of internal audits.....	62
12. Table 7.4 Sample of a report of non-conformities.....	63
13. Table 8.1 Comparison chart of ISM/ISO 9002.....	70
14. Table 8.2 Comparison chart of ISO 9002/ISM/ISMA.....	71

Chapter 1. Introduction

Since the fifties, some country's shipowners, who were required to operate under restrictive legislation and/or union agreements covering the nationality of their crews, have been obliged to transfer their ships to more flexible regimes of the open registers if they were to stay in the business. As a result, the whole question of ownership, operation, management and the control of ships has become more complicated. These changes have introduced a new concept, 'international seafarers'. One attraction of using international seafarers from newer sources of supply is the low cost and that seafarers' unions tend to be more flexible.

International seafarers contributed to the development of the shipping industry from the fifties to the seventies, and then, as a consequences of lack of control of training and certification of international seafarers, the problems followed. With ever growing concern about the responsibility of management for safe ship operation and the size of the financial penalties now imposed for pollution of the environment, it is essential that more direct and/or indirect attention is given to the professional standards and qualifications of international seafarers employed onboard. The manning of ships has been a major topic for debate and concern over the past decades.

The quality of seafarers is a key factor for the safe operation of ships and the protection of the marine environment. SOLAS, ISM Code and STCW'95 have been developed to ensure the quality and competence of international seafarers. These instruments require government authorities, training centres, maritime academies, shipping companies, and ship managers responsible for ensuring the qualify of seafarers.

What about the crew manning agencies that supply a major part of seafarers for the world fleet? The fact is that no mandatory rules and conventions exist for crew manning agencies.

Since 1979, the Chinese government has adopted a sustainable policy to improve the manpower services for the international market. In resent years, China

has been focusing on the international shipping industry as a major resource of seafarers. The possibilities presented and the success of this strategy depends upon the elementary education and the maritime education in China. China is one of the countries, which has restricted regulations and controlling functions in the aspect of certification of seafarers. China has tried hard to be in the first group of the white list of STCW'95.

The author has worked for Cosco Manning Cooperation Inc., which is a COSCO group member subsidiary in crew manning services for foreign ship owners. The company is the biggest seafarer supplier for the overseas market in China. Since 1996, a quality assurance system has been established and maintained which complies with ISO 9002-1994. The rules of the crew manning office, one of the series of rules issued by DNV, complies with the system. The author has been the representative of management and in charge of establishment of the system. The author considers that implementation of the ISO 9002 quality assurance system is one effective solution to assure the quality of seafarers supplied by crew manning agencies, especially in developing countries.

However, one sad situation that the shipping industry has to face is the shortage of qualified officers and ratings and the lack of professional education. Chapter 2 introduces the general situation of imbalance of supply and demand of seafarers worldwide based on BIMCO/ISF manpower reports. The essential factor affecting the qualification and competence of seafarers is education. The owners from traditional maritime nations have employed seafarers from countries where maritime and elementary education have not been very effective. Nobody doubts that this still is a big problem in the shipping industry. Chapter 2 also summarises the education and qualifications of seafarers today compared with high technical requirements.

To improve the qualifications of seafarers, a number of international conventions, e.g. STCW'95 and the ISM Code, have been developed. Chapter 3 analyses how these instruments affect the qualifications of seafarers.

What important role are the crew manning agencies playing? What are their responsibilities? Are the crew manning agencies qualified? Chapter 4 attempts to answer these questions.

Chapter 5 briefly introduces the ISO 9000 series international standards and considers why the crew manning agencies need to implement a quality system.

Chapter 6 and 7 concentrate on the establishment of the ISO 9002 quality system in a crew manning agency through the completing a quality manual and documented procedures. In accordance with the author's experience, some specific activities are demonstrated. Some common activities affecting quality, such as quality record control and internal quality audits), are also briefly discussed in these chapters.

Finally chapter 8 gives some recommendations on the development of a quality system, and introduces the implementation of the ISM Code and the ISMA Code in crew manning agencies.

The research work of this dissertation will be helpful for the author and the reader to further realise the quality system of ISO 9002, to find some new measures and ideas of its implementation to ensure the quality of seafarers from a crew manning agency's point of view. The author would like to pass on his experience of developing a quality system in a crew manning agency with the reader and hopes, by doing this, to be able to contribute to constructively improvements in the shipping industry.

Chapter 2. Demand and Supply of International Seafarers

2.1 Demand and Supply of International Seafarers

From sixties to nineties, the increased productivity of containerships and cargo handling technology, the scale economies of very large vessels, and the growth of new shipping nations and labour supplying countries have totally changed the physical profile of the industry and its manpower requirements. Ship owners, especially from the OECD countries (Organisation for Economic Co-operation and Development), were aware of the difficulties of employment of seafarers with training establishments in the traditional maritime nations closing down. In contrast, seafarers in places like the Philippines, India, Taiwan, Hong Kong and South Korea were bursting at the seams but short of education resources.

In such a situation, Baltic and International Maritime Council (BIMCO) and International Shipping Federation (ISF) decided to investigate this unknown and somewhat confusing future, and commission an international maritime manpower survey, which was the first of its type and attracted considerable attention. In the final report in 1990, it was realised that there were totally 403,000 officers and 838,000 ratings available for the world merchant fleet.

The 1995 Manpower Update report by BIMCO/ISF was wide and deep. In accordance with this report, covering all countries of the world, there were 409,000 officers and 825,000 ratings available for the world merchant fleet. The 1995 report still showed that there was a shortage of 18,000 officers.

The wheel has once again turned and the 2000' BIMCO/ISF manpower update study was published in April 2000. The framework of the human demand for and supply of people for the shipping industry probably has not been changed very much during the past five years, there are 404,000 officers and 823,000 ratings that could supply the world fleet. The OECD countries remain the most important demanding source for officers. Over 40% of serving officers are over 50 years old and the largest source of ratings is the Far East. 27% of the ratings are surplus but the 4% shortfall of officers is becoming a major problem.

Some critical and profound changes have taken place and may affect the future of the industry. Ships have become bigger and bigger for the sake of economy of scale. The manning scale has become smaller and smaller due to advanced technology of navigation, cargo handling and engine room equipment etc. As a result of this tendency, the number of seafarers needed for each thousand DWT has been reduced very much during the past decades. Nobody doubts that this trend will continue in the decades to come.

Another difficulty that the ship-owners have to face is whether the existing seafarers, as stated in the BIMCO/ISF update 2000, can still meet the requirements of the future? Effective implementation of STCW'95 could well reduce the number of seafarers who are today issued with professional qualifications with reference to STCW'78, while, at the same time there is a decline in the number being promoted to the higher ranks.

However, to forecast seafarers' supply is quite sensitive to a variety of factors such as growth in world trade and the development of new technology, re-regulations and de-regulations etc. Even on these somewhat conservative assumptions, the clear message is that the officer shortage will escalate unless corrective actions take place.

2.2. Quality of seafarers

“No ship is any better than her crew”(Peterson, S, S. 1999). This must be a common realisation by the shipping community. The qualifications of the personnel, who man the world fleet, is the single most important issue in achieving higher safety standards on board ship. The attention of the industry has been focused on “qualified seafarers”, rather than merely looking at the total availability of manpower since the beginning of 90's.

there is no corner of the industry, afloat or ashore, that will be unaffected by the great shortage of lack of training and failure to recruit. Research done by the P&I clubs, classification societies and others, into the causes of accidents has established that perhaps as much as 80% of all accidents at sea are the result of human error. Thereby a reduction in the ratio of human error offers considerable economic

incentives. The definition of qualified seafarers probably is very comprehensive and difficult to give. It is not enough to define a “qualified seafarer” that only holds a valid certificate and employed under an agreement.

The challenge today is multi-faceted, with modern technology and economics creating the paradoxical situation of requiring skilled seafarers who are experts in their particular field while also decreasing the number of seafarers on-board. A deck officer today does not need to use the sextant and to calculate the average error of a magnetic compass. He has to understand how to use the complex “ARPA” system, to operate the electronic chart and to be familiar with the GMDSS to send and receive integrated messages. A qualified container ship officer has not the same qualifications as a qualified bulk carrier or log carrier officer. The definition of “Qualified Seafarer”, from the point of view of the shipowner, should be a comprehensive concept which includes: valid licenses and certifications, good health, good maritime education and training, proper experiences and good acknowledgement background, initiative, co-ordination, disciplinarian, and with creativity.

How can young people become qualified seafarers? There are three essential steps: on elementary education, professional training, sea experience and re-training. The elementary education is very important and necessary before young people enter the industry. Poor elementary education normally causes a slow improvement and is a barrier to seafarers in renewing their knowledge and technical skills. It is difficult to train a junior officer who has not got enough education to be a master or chief engineer. This is a truth known by many, not only in the shipping industry, but in all other industries and businesses. If the primary and secondary education systems are not fully established, it is almost impossible to create a quality tertiary or professional education system. Maybe this is why more than 50% of senior officers of the world fleet are from OECD countries.

Experience of the sea is also important in order to be a qualified seafarer. We are dealing with a long time scale in which one can not imagine a miraculous person being successful. It is generally said that at least a ten-year period is needed to

develop a master and chief engineer. And then a substantial period is required giving fresh hands on their new ranks, the necessary experience before they become a qualified master or chief engineer.

To be a qualified seafarer, it is not enough to have good education and rich experience. Training and retraining is also necessary, especially today where the technology is changing very fast. Seafarers need training and retraining in each step in their sea-life to renew their knowledge and skills. Clearly a high level training and continue training can be taken to indicate to the reduction of human error, the main reason for maritime casualties.

From the author's point of view, the average level of education and training of seafarers, both officers and ratings, is not good enough. The weakness of elementary and theoretical education is one of the reasons. There is no inter-government co-operation in elementary education between the supplying countries and demand countries while some individual and private maritime academy programs have been established in Philippines, India, Vietnam, China and so on. Compared with the profit the owners make from their seafarers, the investment in the aspect of education and training of seafarers where their national governments could not provide good enough elementary education for them, can not be realised to be sufficient.

In conclusion, the lack of investment in proper education and training unquestionably today is one of major reasons for a shortage of qualified seafarers. "A perception that recruitment and training level had peaked and were beginning to decline below those necessary to ensure an adequate future supply of seafarers" as mentioned in BIMCO/ISF report of 1995.

Chapter 3. International Conventions

3.1. Human error in the maritime industry

Qualified seafarers have become more and more valuable because ships have become bigger, faster and more complex to handle. An indication of the quality of seafarers today can be seen from the number of maritime incidents, accidents and disasters.

One of the most common understandings in the shipping industry is that most incidents/accidents are caused by human error. In accordance with “Shipping Casualty Statistics” issued annually by the International Underwriting Association, total losses are attributed to six different causes: collision or contact, fire or explosion, grounding, machinery failure, weather and other reasons. If a further analysis is made to find the real reasons, another generalisation will be exposed that about 80% of accidents at sea are caused by human error.

Another piece of significant evidence which gave eloquent proof of the above statement is an analysis made by the UK P&I club in 1996—“The Human Factor”, in which the main causes of major claims undertaken by the club have been illustrated. 44% of the claims analysed are considered caused by seafarer’s error. The maritime accidents or incidents caused by seafarer error result in enormous damages to the safety of ship and cleaning of the sea, a huge pecuniary loss of the ship owners as well as the whole maritime community. Seafarers are also injured by mistakes or errors made by themselves.

“...Yet until fairly recently little has been done to try to determine why high skill, well-trained professional seafarers make mistake. We must concentrate of finding an answer at this puzzle.” Mr. William A. O’Neil, Secretary-General of IMO said in his millennium message (IMO NEWS, No.3, 1999).

Actually, the industry has realised the importance of the human factor in maritime incidents and has adopted several measures to prevent and reduce human error in maritime operations. The STCW’95, as well as the ISM Code, could be considered most successful.

3.2. STCW'95

In pace with the rise in free-flag tonnage, the “international seafarer” had become important in the years between the early ‘50s and the middle of the ‘70s as a new word for the industry. Before that, seafarers were either nationals of the Flag State or had a colonial or other long-standing relationship with it, so that there were no problems with differences of standards or unacceptable standards which the STCW’78 attempted to resolve. STWC’78, which set out to codify and standardise acceptable training and qualifications for the international seafarer. It was progressing successfully and it improved the qualifications of international seafarers, even national seafarers in past years. Unfortunately, some weaknesses also showed up in the different ways of complying with its requirements. Thus, the need for a revised convention, which for convenience is usually referred to as STCW’95. The first goal of STCW’95 is basically to internationally harmonise qualifications and standards. The second goal is more implicit than explicit - to raise the level upwards .

The STCW’95 provides a useful starting point. It establishes considerable obligations for the administrations and also, for the first time, for the companies. A radical change from previous practices under STCW’78 is that the members will be subject to the approval of the IMO in this regard. This is really a progress to codify and harmonise the training and certification standards internationally.

Shipping companies also have responsibility to comply with STCW’95. While governments have to solve their problems, companies are required to ensure their seafarers are familiar with their specific duties and with all the ship arrangements, installation, equipment, procedures and emergency duties. It is not an easy task for shipping companies. For example, some shipping companies require the ‘top four’ (the master, chief mate, chief engineer and 1st engineer), who are first to join the fleet, to come to the headquarters of the company before they embark onboard the ship. All questions from the top four have to be clearly answered until the management ensures that everything is understood. This program is popular in

modern shipping companies today and they must spend a lot of money and human resources on this.

3.3. The ISM Code

STCW'95 convention concentrates on keeping adequate harmonised qualifications of “international seafarers” by means of training and certification that are implemented by the administrations and the companies. The ISM Code is recognised as a good management practice for all the people in shipping companies.

Under the regime of the ISM Code, shipping companies are under increased pressure to demonstrate the situation of quality of their management system not only crew management. As a result of the adoption of the new chapter IX to the SOLAS convention, the ISM code requires the owner or “any other organisation or person” to develop, implement and maintain a safety management system (SMS) which covers a wide range of items. The companies must comply with the mandatory international requirements of the ISM Code at every level and in every department. Every human-element that the STCW'95 does not cover, concerning safety and quality, should be covered by SMS. This must affect to crew manning agencies.

All ships of the company have to meet the requirements of the ISM Code in order to obtain the document of compliance (DOC). Normally every major activity onboard concerning the safety and the prevention of pollution should be written in documentary procedures, especially in case of emergency. Nobody knows how a shipping company prepares so much paper works onboard and ashore. And all the documents including “the safety and quality manual”, the responsibilities, more than a hundred procedures and work instructions need to be understood by the seafarers. Furthermore, documented verification, reporting and auditing of the SMS on a regular basis is also required under the ISM Code.

A difference from other international safety conventions is that the ISM Code probably tries to establish a safety culture on board throughout the shore based management structure. There are many ways to achieve the goal, to implement the ISM Code effectively in order to set up a safety culture onboard. It can be very strict

and painstaking. It also will be flexible and extensive. Consequently the ISM Code requires a total change of attitude by all the parties within the industry, including the crew manning agency, since the safety culture can not be achieved through legislation alone.

Chapter 4. The Crew Manning Agencies

4.1 Crew manning agencies in the maritime industry

It is not known exactly how many crew manning agencies there are in the world. Nobody knows how many seafarers are supplied through crew manning agencies. There are several thousand agents supplying seafarers to the industry including shipping companies, ship management companies and crew management companies.

A crew manning agency is an independent agency which supplies seafarers or other maritime personnel with certain qualifications and under certain conditions to a principal. A crew manning agency is a pure agent compared with crew managers in the industry such as the crew department in a shipping company or a ship management company. This agency is also different from an independent crew manager who has a contract with the owner or ship manager.

If the owner operates his own ships, he may approach a crew manning agency to supply the crew and, usually employ the crew and carry out the responsibilities under the ISM Code, STCW'95 convention, and other international or national regulations for the competence and qualifications of the crew. Alternatively, the owner may pass the crew management to a crew manager and the crew manager may employ the crew through a crew manning agency and be regarded as the responsible person to supply according to the manning standards.

A significant difference between a crew manager from a crew manning agency is that “the crew manager will be the employer of the crew and concluding contracts of employment with the crew.” And “they shall have no authority to act on behalf of the owners” in the aspect of seafarers recruitment and employment (The “CREWMAN” Standard Crew Management Agreement 1994, BIMCO). The crew managers provide crew management services to the owners (principals) according to an agreement. However in most agreements between a crew manning agency with its client, all the activities of an agency in respect of seafarer recruitment and employment are on behalf of the principal. The actual employer is the owner not the

agency. As a result of the agency relationship, the crew manning agency is given considerable protection against civil claims from owners, the ship manager, and third parties. Meanwhile, a crew manager, according to the ISM Code, should be responsible for the safety management of the operation of ships and pollution prevention. In this paper, the author only intends to discuss the relative responsibilities concerning qualifications under the definition of pure agency. (See figure 4.1: The Flow Chart of Crew Employment)

Depending to the research of the UK P&I club, 30% of visited ships in the study employ their officers from crew manning agencies, and 46% of the ships employ their ratings from crew manning agencies. (The human factor, 1996, UK P&I club). If it is assumed that the proportion of officer and crew is 1: 1.2 onboard, we can also simply estimate that 38% of seafarers onboard come from crew manning agencies.

There are totally 631 ship managers in the “Ship Managers Guide” published by Fairplay in May 1998. Sixty eight of them provide pure manning services, one hundred and seventy provide ship management with manning and training services, one hundred and eighty seven engage as ship manager including manning services and two hundred six of them provide ship management services without manning services. Relying on these statistics, 36.6% of ship management companies find their crew from crew manning agencies (See Table 4.1: The Statistics of Ship manager in the World).

Today the trend is now that the big ship owners (normally with more than 15 – 20 ships) always set up their own offices in the seafarers’ supply country to completely control the manning aspect from the first recruitment, selection, education, and until the seafarer embarks upon the ship. The big owners also have their exclusive training establishments in the resource states. In this case, the crew manning agency becomes a part of the owner. However, the small ship owners still need independent agencies from which to recruit and employ seafarers.

4.2 The qualifications of a crew manning agency

The agreement between a crew manning agency and the principals protects the agency from almost all responsibilities. All actions carried out by the agency in respect of crew recruitment and employment are on behalf of the principal. The principal of a crew manning agency is the company, organisation or other person as defined in the ISM Code which takes all or part of the duties and responsibilities imposed on it by both the Code and the STCW'95 convention. As a result, as shown in Figure 4.1: The Flow Chart of Crew Employment, such an international convention covers all the relevant organisations except the crew manning agency. This means that 30% --40% of seafarers are supplied to the international fleet through those organisations which are not subject to any mandatory international conventions concerning the competence of seafarers they provide.

In traditional seafarer supply countries, some national regulations have, of course, been adopted to qualify crew manning agencies. For instance, in the Philippines, the crew manning agencies are licensed by POEA (the Philippine Overseas Employment Administration). This organisation also issues a quarterly listing of those licensed, which includes a list of suspended agencies and those banned from offering recruitment services (ISF Guide for International Maritime Labour, 1990, ISF). China has also adopted the regulation of license to the agency that provides crew manning services to overseas employers. By the end of 1999, there were total 41 agencies or organisations that have been approved by the Ministry of Foreign Trade and Economic Co-operation of China to engage in crew manning services for overseas employers. In other seafarer supply countries the situation is similar. This license means that the agency or organisation just satisfies the essential requirements of local government. Actually the government can not supervise all agencies to perform their work in a qualified way.

Obviously, the principals always are the supervisors of the qualification of the crew manning agencies in spite of the supervision of the government. Normally the essential requirement from a client is easy – “competent seafarers and qualified services.” First of all, the terms of contract will specify what the agencies shall do

and what they shall not do. Secondly, some big principals maybe require their agency to comply with their specific regulations or other rules for their agencies, especially in the case of exclusive agencies. The principal could also supervise the qualification of crew manning agency through regularly visiting the office and by follow-up or by dispatching a representative when recruitment and selection interviews take place. The most common measure is to evaluate the seafarers supplied by the crew manning agency during and after their services. Finally, the principal requires the agent to establish and maintain a safety and quality management system to ensure the qualifications of the seafarers and the services regularly. The ISM Code, the ISMA code, the DNV rules of crew manning office and the ISO 9000 standards are all suitable for a crew manning agency. More and more people of the industry have realised that it is the most effective way to ensure the qualifications of the agency on a day-to-day basis. Due to evidence of improvement of quality, some Hull and Machinery underwriters have started to give discounts on premiums to ship managers, including crew manning agencies, who are associated members of ISMA. (The Human Factor, UK P& I CLUB, 1996).

On the other hand, the crew manning agencies also realise that to set up such a quality system is really helpful in improving their services and attracting their clients. By the end of 1999, totally 63 certificates had been issued to crew manning agencies that have complied with the 'DNV rules of crew manning office'. (See Table 4.2 DNV Certification of Crew Manning Office)

In the rest of this paper, the author would like to concentrate on the implementation of the ISO 9002 for crew manning agencies.

Figure 4.1 Flow Chart of Crew Employment

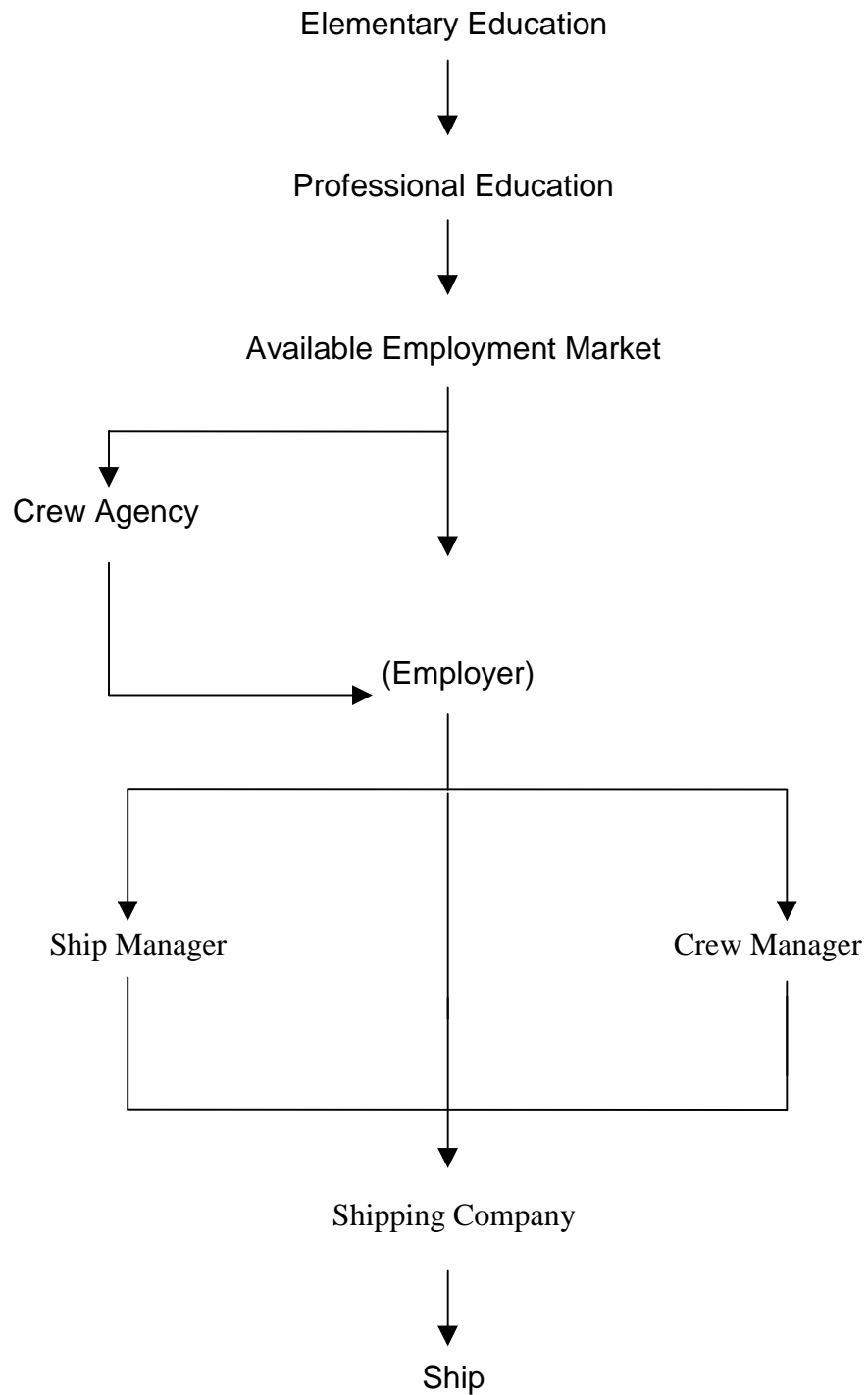


Table 4.1: STATISTICS OF SHIPMANAGERS IN THE WORLD

(Source: Shipmanager Guide, Fairplay, 1998)

SERVICE TYPE STATE	MANGEMENT	MANAGEMENT MANNING TRAINING	MANAGEMENT MANNING	MANNING	TOTAL
OECD STATES	128	97	111	14	350
EAST/CENT. EUROPE	18	8	11	21	58
FAR EAST STATES	23	32	26	18	99
INDIA SUB-CONT.	8	13	13	4	38
SOUTH AMERICA	2	0	2	1	5
OTHERS STATES	27	20	24	10	81
SUB-TOTAL	206	170	187	68	631

Table 4.2**DNV CERTIFICATION OF CREW MANNING OFFICES****REFERENCE LIST (Certificate issued or in process)**

COMPANY	LOCATION	CERTIFICATE ISSUED
Acomarit	Riga	95.09.05 (No. 001)
Acomarit	Rijeka	96.08.07 (No. 005)
Acomarit	Bombay	
Acomarit	Manila	96.08.07 (No. 004)
Acomarit	Novorossiysk	97.01.29 (016)
D.S Marine (earlier Acomarit)	Hong Kong	96.11.28 (013)
Acomarit (earlier UNICOM)	Odessa	98.09.02 (035)
Bergesen dy Philippines, (former Havtor 96.06.26)	Manila	95.09.07 (No. 002) New cert. issued 96.08.12, (007)
Havtor	Riga (LAPA)	95.10.26 (No. 003)
Galanakis	Piraeus	
Unicom	Cyprus	
Acomarit (earlier Unicom)	Odessa	96.08.07 (No. 006)
Unicom	Novorossiysk	97.01.10 (014)
Unicom	Riga	97.06.16 (021)
Unicom	St.Petersburg	97.04.23 (018)
COSCO Manning Cooperation Inc.	China	96.08.13 (No. 008)
COLEX Maritime Inc.	Manila	96.11.18 (012)
Elvictor Shipping Co. SA	Greece	96.10.28 (011)
Monsoon Maritime	Singapore	98.06.22 (32)
Career Philippines	Manila	96.10.28 (010)
Shipmanagement,Inc.		
TMS Shipping (Phils) Inc.	Manila	97.01.10 (015)
Norwegian Crew Management	Oslo	97.09.16 (025)
Orient Ship Management	Norway, Arendahl	97.09.30 (026)
Selandia Marine Services PVT.LTD	Mumbai, India	97.04.14 (017)
PT Andhini Ekakarya Sejahtera	Indonesia	97.07.25 (022)
Denholm Ship Management (IOM) Ltd.	Isle of Man, UK	97.04.29 (019)
Seabound Maritime Services Inc.	Manila	96.10.28 (009)
Nortrans Pte. Ltd.	Mumbai	97.06.09 (020)
MAG Ltd.	Gdansk	97.08.25 (024)

Table 4.2**REFERENCE LIST (Certificate issued or in process)**

COMPANY	LOCATION	CERTIFICATE ISSUED
Grace Marine Shipping Corp.	Manila	97.11.03 (027)
Naess Shipping Phils. Inc.	Manila	97.08.21 (023)
SPA-TSM Ship Management	Jakarta	98.01.19 (029)
COSCO QINGDAO Manning Co-operation Limited	Qingdao	97.12.23 (028)
Shanghai Ocean Economic and Technical Co-Operation Co. Ltd.	Shanghai	98.03.06 (31)
Herald Maritime Services	Mumbai	ISO 9002 99.01.26 (42)
Marine Management Services Pvt. Ltd	Mumbai	98.02. (30)
Island Overseas Transport Corp. & Eastgate (Int'l) Maritime Agency	Manila	98.08.24 (34)
Chipoline Manning Service Co.	China	98.07.07 (33)
Orient Ship Management Phils. Inc.	Philippines	98.09.09 (36)
Fescontract	Vladivostoc	98.09.09 (37)
Wallem Manpower Int. Pte.	Singapore	98.09.21 (38)
Pacific Shipmanagement	Mumbai	98.12.23 (41)
Norteam Shipping Services Inc.	Manila	98.12.15 (40)
P.T.Andhini Ekakarya Sejahtera	Jakarta	98.09.22 (39)
Qingdao Pacific Oceaneering Co. Ltd.	China	99.02.08 (43)
OSM Maritime Services Limited	Hong Kong	99.03.08 (45)
ACOMARIT	Hong Kong	99.03.01 (44)
China Marine & Seamen Service Corporation	Beijing	99.08.31 (46)
Fleet Personnel Pvt. Ltd.	Mumbai	99.10.21 (47)
Killick Marine Services Ltd.	Mumbai	99.11.09 (49)
Bergesen dy India Pvt.Ltd.	Mumbai	99.11.09 (48)

(Source: DNV)

Chapter 5. ISO 9002 in a Crew Manning Agency

5.1. ISO 9000 international standard series

the ISO 9000 series of standards is one of the many international standards issued by the ISO, International Organisation for Standardisation. The ISO is a world-wide federation of standard organisations. The scope of ISO involves almost all aspects in the industrial field except electrical and electronic engineering. When the technical committee of the ISO has drafted a standard and it has been approved by 70% of ISO members, a new international standard emerges.

Some of the standards can be equal to national standards. Some may be recommended to the industry. Most ISO standards concern the technical index physically or chemically, for example, the standard of socket of a light bulb socket, the standard of a container, the standard of a telephone card or credit card etc. These standards can be measured by a standard tool or specific equipment.

The ISO 9000 series are an exception to physical standards. It concerns “Quality”. It is a standard for quality, not for weight, length, intensity or strength. Hereby quality is defined as “the capability of the supplier to satisfy stated or implied needs” (ISO9002 standards). The supplier could be any organisation or firm, a manufacturer, an institute, a training centre, an agent, a hotel, a restaurant, even a government organisation. There are a number of standards or sub-standards including some guidelines in the ISO 9000 series. However the core consists of three international standards – ISO 9001, ISO 9002, and ISO 9003.

--ISO 9001, is the quality systems for quality assurance of the supplier who provides a product or service in design, development, production, installation and servicing aspects.

--ISO 9002, is the quality assurance system of the supplier who provides a product or service in production, installation and servicing.

--ISO 9003, is the quality system for quality assurance in final inspection and the test service aspect.

All of these standards dealing with quality system, are for the purpose of external quality assurance. The external customers are assured that the supplier, who

has established one of the three quality systems, has the capability to supply conforming products or services under the requirements of the standard. Normally, ISO 9001 applies to the manufacturing industries that are engaged in design, development, production, and installation and servicing. One example is the shipyards that design ship(s) to satisfy particular owner's needs and then build the ship(s). Many types of service, including after sales services, are provided to ship owners and, of course, they also need to develop the ship(s) and equipment after delivery. ISO 9002 applies to service industries and to the manufactories without design and development functions, for instance shipping companies, agencies, institutes, hotels etc. Finally, ISO 9003 applies solely to the supplier who provides final inspection and test services, for example petrol stations.

In conclusion, application of the ISO 9000 series standards depends on the particular function that the supplier supplies. If a shipping company provides logistic services to the customer, it probably applies ISO 9001 instead of ISO 9002 because some design functions are included.

5.2. ISO 9002 in crew manning agency

ISO 9002 is an international quality system for the purpose of external quality assurance applying to the service industries. It applies to crew manning agencies that supply crew-manning services to the shipping industry. In accordance with the manning agency agreement, a crew-manning agency provides relevant services to its clients. In general, these services could be stated briefly: to supply competent seafarers, as required by the principal, to be engaged on board ship(s) (Standard manning agreement of Cosco manning cooperation inc.). However, in fact, this statement can not be accomplished easily. To complete its services, a crew manning agency should conduct, but not be limited to the following activities:

- 1) To sign a manning agency agreement with the principal.
- 2) To select individual ranks and ratings according to the principal's requirements.
- 3) To form competent crew complements of crew.

- 4) To make a collective contract of employment with the principal on behalf of the seafarers.
- 5) To make individual contract of employment with the seafarers on behalf of the principal if necessary.
- 6) To arrange necessary joining documents, immigration documents, domestic transportation, and make any other necessary arrangements for seafarers to be ready for joining the vessel in the world wide.
- 7) To make immediate replacements if the principal requires for replacement of unsatisfied seafarers or in case of emergency.
- 8) To arrange home payment of seafarers on behalf of the principal.
- 9) To deal with claims and compensations on behalf of the seafarers or the principal in case of injury or death of seafarers.
- 10) To provide other relevant services to the principal and the seafarers.

All the above responsibilities of a crew manning agency should be explained in the quality manual. All the necessary actions of the agency should be written to document procedures to ensure that its services conform to the specified requirements of the ISO 9002 standard.

5.3. The purpose of implementing ISO 9002

Why does a crew-manning agency need the ISO 9002 quality system? What are the driving powers? Generally, there are two major driving powers for a crew manning agency to establish a quality system.

Firstly, there are the requirements from the market, the principal and the competition, which are referred to as the external driving powers. At present, competition exists in every aspect in the world of economics especially in the shipping industry. A shipping company needs high quality seafarers at a low cost. From the ship owner's or ship manager's point of view, the cost of seafarers does not involve salary and travelling costs only; it involves many other costs. Human errors, unsatisfactory maintenance, less of a sense of responsibility, lack of a sense of safety

and the environment, little navigation and cargo handling knowledge and skills, are all the quality problems in which way cause a higher cost compared with salaries and travel. Sometimes a negative action and attend of a non-qualified seafarer may cause a serious accident. The ideal situation for a ship owner is probably that every seafarer is qualified at every position every time. But how could the ship owner be assured that the crew manning agency provides only qualified seafarers on a day-to-day basis?

Naturally the crew manning agencies would guarantee the principal that they provide qualified seafarers and services. The principal examines and verifies the competence of seafarers supplied by the agencies. Interviews with senior officers or significant ratings always take place through ship owners or managers before they depart on ships. Ship owners or managers also visit the office of the crew manning agency to examine their qualifications regularly and in order to improve their qualifications. Nevertheless, all these acts can not guarantee that the agencies are performing their duties at a high and stable level at every time. They also cannot guarantee that every non-conformity of the agencies can be found and corrected in their daily work and corrective and preventive action taken. Quality system provides such a guarantee to the external clients that the agency practises its necessary duties at a reasonable and stable level so that qualified seafarers and services are guaranteed under specified requirements. This guarantee is not provided by the crew manning agency themselves but by a third party – the accredited authority under a universally accepted quality standard. This principal applies to any kind of organisation.

Throughout establishing and maintaining the ISO 9002 quality system, a crew manning agency demonstrates its capability and guarantees the qualifications of their seafarers and related services. It must increase their ability to compete in the international market.

Another driving power to the establishment of the ISO 9002 comes from the management of the crew manning agency itself. Probably the qualifications of seafarers has been satisfactory for the principal for many years, and there are no more competitors in the specified seafarer field. This means that there are not more

external driving powers, but the management still wants to improve their qualifications further. They find some problems, in the aspects of organisation, management, practice, and co-ordination that need to become smoother and more efficient. As a result, they decide to establish a quality system to improve the level of management.

5.4. Project plan of implementation of ISO 9002

The ISO 9002 is an international standard for quality assurance of the company that is engaged in production, installation and service. It specifies requirements, which determine what elements the quality system has to be involved in. Every company who wants to apply for an ISO 9002 certificate has to comply with these elementary requirements. “But it is not the purpose of these International Standards to enforce uniformity of quality system. They are generic and independent of any specific industry or economic sector” (ISO 9002, 1994). Depending on its particular objectives, products and services supplied, an organisation or company will design and implement a quality system complying with ISO 9002 in various ways. Even in the same specific industry or economic sector, the particular processes and specific practices are very different from one to another. Therefore, how to design and implement ISO 9002 in a crew manning agency should not be fixed. The following stages or actions should, however, be considered to make a project plan of the establishment of the ISO 9002 system in a crew manning agency:

1. Form a quality team and to design the management representative.
2. Define the Quality Policy and objectives.
3. Have a commencement meeting and training for general knowledge of ISO 9002 to all the employees.
4. Define the responsibility of each concerning functions and personnel.
5. Have a time schedule for the project plan.
6. Analyse the relationships between ISO 9002 requirements and particular activities of the company (See table 6.2 ‘Sample of correlative list’).

7. Cut out the non-applicable requirements.
8. Find a suitable experienced consultant.
9. Learn from the successful experiences of other similar organisations.
10. Define the accredited authority.
11. Arrange written documentation including the quality manual and the procedures.
12. Distribute documents and collect suggestions and amendments.
13. Amend and complete the documentation.
14. Appoint competent internal auditors
15. Conduct inter-audit and corrective actions
16. Arrange the first visit, document review and initial audit employed by the
accredit authority.
17. Correct the non-conformities found in the initial audit in time.
18. Have a budget for the project
19. Organise a party to celebrate the certification of ISO9002.

In the above project plan, the most important thing is to establish the quality system and write the quality manual. The next chapter will explain how to set up the quality system within ISO 9002 in a crew manning agency and how to complete the quality manual.

Chapter 6. Quality Manual

6.1. Introduction

The quality manual is the foundation of the documented quality system. “The supplier shall prepare a quality manual covering the requirements of this International Standard. The quality manual shall include or make reference to the quality system procedures and outline the structure of the documentation used in the quality system”(ISO 9002, 1994). In a quality manual, the quality system shall be completely described including the structure of the system, the scope of the system, the normative references, the definitions, the quality policy, the organisation and the descriptions of particular actions of the company. However, it is not necessary to describe all the actions of the company and all the details of a particular quality action in the quality manual. Nevertheless, all the requirements of the standard have to be mentioned in the manual and how the company complies with them. Details of the particular actions will be introduced later in the documented procedures.

If a relatively complete management system has been established in a company, the process of forming the quality manual could be considered as the process of establishing the quality system. Nevertheless, the interrelation and co-ordination between functions and departments must be reconsidered and refreshed carefully. Some extra positions, responsibilities and departments also need to be designated and rearranged if necessary.

The structure of the quality system in a crew manning agency shall be clearly shown throughout the process of writing the quality manual.

The structure of the quality manual can be completed in different ways. The writing person or writing group can formulate anyway they like. For the purpose of convenience to the external auditor, the quality manual can be written so that it corresponds with the sequence of the chapters and sections as in the ISO 9002 standard. The external auditor can easily find that every requirement of the standard has been stated in the manual. An example of the quality manual of a crew manning agency is briefly demonstrated as follows:

1) Foreword

To introduce a brief of the company, the category of the manual, the personnel and departments concerned in the quality system, the date of issue of the manual, and the full address of the company etc.

2) Chapter 1. Scope of Application

To introduce the specified products or services of the company.

3) Chapter 2. Normative Reference

To introduce which quality standards are applied by the quality system. It could be ISO 9002, ISM Code, ISMA Code and/or other benchmarks.

4) Chapter 3. Definitions

To introduce the significant definitions used in the manual. (See appendix 6.1 ‘A sample of definitions of quality system’)

5) Chapter 4. Quality System Requirements

This chapter shall involve all requirements of the ISO 9002 standard that apply to the system. The requirements that do not apply to the system have to be stated as “these requirements do not apply”. The total requirements of ISO 9002 follow in table 6.2.

6) Appendix 1. List of Quality Document

All the documentation of the quality system shall be listed including the manual, the documented procedures, and the working instructions etc.

7) Appendix 2. Correlative List

Sometimes the name of the chapters and sections of the quality manual can not be the same as the relevant requirements in ISO 9002. For instance “control of non-conforming product” (section 4.3 in ISO 9002) can not be used in a crew manning agency. A proper title of this section in the manual should be “control of non-conforming seafarers”. As a result a correlative list is necessary to illustrate the correlation between the requirements of ISO 9002 and the particular chapters and sections of the manual. (See table 6.1 ‘A sample of correlative list’)

8) Organisation Chart

A chart of the organisations of the company is needed to show the structure of the company. This is also very helpful to the external auditors. (See figure 6.1 ‘A sample of an organisation chart of a crew manning agency’)

6.2. Management Responsibility

6.2.1. Quality policy

To set up a quality system, the management of a crew manning agency shall define and document its policy of quality, including its objectives of quality and its commitment to quality. The quality policy is to be relevant to its objectives and to the needs of its customers.

Commonly, the statement of objectives and policy are seldom more than one page. It should be short and easily understood by all the personnel affected. The policy should be signed by a senior decision maker (general manager or managing director) showing quality commitment from the top management. It is not enough to state objectives only in a quality policy. How the stated objectives are to be achieved also needs to be indicated. A sample of the quality policy of a crew manning agency is attached in appendix 6.2 .

6.2.2. Organisation and Responsibility

In the quality manual, the agency has to define and document the responsibilities, authorities and the interrelation of personnel or departments responsible for any part of selection, recruitment, training program, despatch process and other relevant services of seafarer supply. In accordance with ISO 9002, at least the following items have to be included:

- 1) Initiate action to prevent any non-conformity relating to seafarer’s quality and relative services of the agency as stated in the quality system.

- 2) Identify and record any deficiencies relating to a seafarer's quality and relevant services.
- 3) Initiate, recommend or provide solutions of the deficiency through designated channels.
- 4) Verify the implementation of the solutions.
- 5) Control the further process until the deficiency has been corrected.

It must be possible to verify that the key personnel are qualified for their tasks. For example proper sea-experience is required for the crewing manager. Responsibility and authority should be defined on an organisational level, department level, and individual level. An organisation chart is a practical and effective way to describe the formal structure of the organisation. Meanwhile, an interrelation chart can also be used to describe the interrelation of functions and tasks internally and versus external parties. (See table 6.1 'A sample of correlative list' and table 6.2 'A sample of interrelationship chart').

The management of the agency is also required to provide adequate resources, including trained personnel, to guarantee the implementation of the quality system. A significant person is the management representative. The function of this position is similar to the designated person in the ISM Code. However, the management representative is not only in charge of safety and pollution prevention issues, he or she also needs to co-ordinate and monitors the development and implementation of the quality system to be able to monitor the maintenance and effectiveness of the system in the day-to-day operation later on. He or she is to have access to the highest level of management to report on the performance of the quality system for review and then improvement. Another function of the management representative is to keep in contact with external parties on matters relating to the quality system. These parties may be ship managers/operators, maritime academies/training centres/simulator centres, agents, consultant and accredited authorities.

6.2.3. Management Review

The management of the agency is required to review the quality system to ensure its continuing suitability and effectiveness in satisfying the requirements of ISO 9002 and its stated quality policy and objectives. Such a management review should be arranged at least once a year and the records maintained. Management reviews are carried out by the appropriate members of the management or by competent personnel decided on by the management. It is commonly planned and organised by the management representative.

The management review may consist of evaluations of the following items:

- 1) Policies and objectives
- 2) Any non-conformity of seafarers and related services.
- 3) Analyses of maritime accidents, incidents and hazardous situations relating to the agency.
- 4) Performance of the procedures, and the working instructions.
- 5) Complaints from customers.
- 6) The overall effectiveness of the system in achieving stated objectives.
- 7) Considerations for up-dating the system in relation to a change of market, new regulations, conventions and environmental conditions.

Plans, findings, conclusions and recommendations reached as a result of the management review need to be documented. The necessary improvement actions needed to be planned and implemented is required to follow the review.

6.3. Quality System

6.3.1 Quality system procedures

The management of the agency takes on a commitment to establish, document and maintain a quality system to ensure the quality of seafarers and related

services supplied to the customers. The quality system is described in the quality documents including the quality manual, quality procedures and working instructions. The quality manual identifies the quality policy and objectives of the agency. It also outlines the quality system and the structure of the documentation used in the system. Depending upon the services conducted by the agency, the complexity of the work, the methods used, and the skills and training level of the employees, working procedures are written with a proper range and details.

6.3.2 Quality planning

Quality planning is a very important part of the quality system but people often ignore it. The management of the agency shall define and document how to meet specific requirements for seafarers and related services from customers. Because the quality system is likely to be a generic system, not specific to any particular project or contract other than the range of the services the agency supplies are concerned in the system. The quality documentation will not specify everything the agency needs to do for every job, especially new requirements, contracts and projects. So the quality plans are needed to deal with the particular or new requirements, projects and contracts. In a crew manning agency, maybe the quality system has regulated how to arrange recruitment and how to form the complement under the customer's requirements. Quality planning shall be documented in a format to suit the operation of the agency. When a particular requirement is required, the management should react as follows:

- 1) Prepare the quality plans.
- 2) Organise the necessary personnel, training programmes, subcontractors or other resources to implement the plan.
- 3) Ensure the requirements to be satisfied with the compatibility of the daily operation of the company.
- 4) Clarify that the company has the capability to satisfy the requirements.

6.4. Contract review

In general, each occurrence of the despatch of seafarer(s) to the customer shall be restricted and secured by an agreement. The crew manning agency agreement between the agency and the principals defines the responsibilities, authorities, obligations and services of both parties. In this section, the agency shall explain how the contracts have to be reviewed before signature. The details are described in Chapter 7.1, the procedures of contract review.

6.5 Document and data control

This section of the manual explains that all documents and data affecting the quality of seafarers and related services are under proper control. The agency identifies that the documented procedures have been established and maintained under ISO 9002, section 4.4. The details of these requirements are described in Chapter 7.2, the procedures of document and data control.

6.6 Purchasing

In a crew manning agency, these requirements can be understood as the recruitment and employment of seafarers. The agency explains briefly how the seafarers are to be recruited or employed by the agency on behalf of the principal and how to verify the qualifications of the seafarers according to the requirements of the contract. The agency states that documented procedures of recruitment of seafarers have been established and maintained. The details are described in Chapter 7.3, the procedures of recruitment of seafarers.

6.7 Control of customer-supplied product

These requirements do not apply to the crew manning agencies.

6.8 Product identification and tractability

Under these requirements, the agency shall establish and maintain documented procedures for identifying the seafarers by suitable means during selection, verification, recruitment, training, despatch, working onboard, repatriation and vacations. The identification of each seafarer must be unique during all stages. Obviously, a unique identification of the seafarer is his/her names and date of birth. The agency can use these to index and trace the individual seafarer during all stages.

It is not very complicated to identify the seafarers so that these requirements can be included in other procedures such as the procedures of recruitment of seafarers, the procedures of control of non-conformities or the procedures of control of quality record. In this case, procedures of seafarer identification and tractability are not needed. (See Chapter 7.3, the procedures of recruitment of seafarers, Chapter 7.4, the procedures of control of non-conformities, and Chapter 7.7, the procedures of control of quality records).

6.9 Process control

Besides the requirements of ISO9002, other operational processes directly affecting the quality of seafarers and related services have to be identified and planned to ensure that those processes are carried out under controlled conditions. The agency shall explain what additional processes are particularly needed. Two critical processes in the agency need to identify specially. They are the process of communication and the process of emergency.

6.9.1. Communication

Communication is a very important process in the shipping industry that is not specially required in ISO 9002. The agency shall define lines of communication experience, feedback between the crew manager, the ship manager, the ship(s) and the subcontractors, including, but not limited to the following:

- 1) Accident and near miss reports

- 2) Training scheme, seminars etc.
- 3) Assessment reports or evaluation of seafarer forms
- 4) Emergency replacement
- 5) Other urgent cases

For this purpose, full addresses of customers, subcontractors, ships, even seafarers are to be listed and up-dated.

6.9.2. Emergency

The agency ensures that an emergency plan has been established. The purpose of this plan is to ensure that the crewing manager or other person in charge can respond to the emergencies in a co-ordinated and efficient way. The emergency plan shall include, but not be limited to the followed items:

- 1) The compositions, responsibilities and authorities of the emergency response team.
- 2) Procedures to assemble the emergency response team.
- 3) Procedures to set up contact between the ship and the crewing manager.
- 4) Procedures for establishing contact between the ship manager and the crewing manager.
- 5) Procedures for obtaining the details of seafarers onboard the vessel.
- 6) List of name, telephone and mobile-phone numbers, including the after hour numbers of personnel and organisations who must be notified.
- 7) Procedures for notifying and liasing with the next of kin for seafarers onboard ships.
- 8) An up-to-date list with personal details of all employed seafarers on board.
- 9) An up-to-date list with personal details (including full addresses) of all available seafarers ashore.

All the information the emergency treatment needs must be obtained easily by the member of the team. Emergencies an agency may encounter include:

- Incidences of the ships where the seafarers onboard
- Personal injury of seafarers onboard
- Sickness of seafarers onboard
- Injury and sickness of seafarers on the way to departure and repatriation
- Deserting
- Travelling troubles of seafarers
- Other emergencies

The agency shall make arrangement to protect and secure documents and data, including electronic data, of vital importance to the business, from theft, fire, water damage, failure to operate, and computer viruses.

6.9.3. Daily working procedures

Normally in crew manning agencies, one department performs several procedures affecting the quality of seafarers and related services. One of the procedures could also be performed in such a way to affect several departments, (see table 6.2, Sample of interrelationship chart). In some major departments, it is necessary to establish and maintain daily working procedures to define how different quality procedures have to be performed. For example, the crewing departments in a crew manning agency are very important. Here several quality procedures are performed daily by staff, such as recruitment, verification, despatch, non-conformities control, communication, emergency treatment etc. Other daily work done by this department includes contacting owners and contacting seafarers, keeping in touch with subcontractors etc. How does the staff manage this daily work? What is the responsibility of different personnel? What is the interrelationship between these daily tasks and procedures? The daily working procedure is to be

defined and described. Another purpose of the daily working procedures is to implement the quality plans (see Chapter 6.3.2, quality planning).

6.10 Inspection and testing

These requirements especially apply to industrial activities such as production and installation. In a crew manning agency these requirements may be included in the procedures of the recruitment of seafarers to verify that they satisfy the specified requirements of the customers. In these procedures, verification records are to be retained in the personal record of the seafarer. The company does not need to establish such procedures separately (see Chapter 7.3.2, recruitment of seafarers).

6.11 Control of inspection, measuring and test equipment

These requirements do not apply to the crew manning agencies.

6.12 Inspection and testing status

These requirements are also included in the procedures of recruitment of seafarers. The verification status is to be defined by suitable means in the procedures. For example, when the ship manager accepts a crewmember, after prior processes of selection, personal document verification and interview, the crewing manager will put this crewmember's name and details on the crew list for a particular ship(s). To be put on the final crew list, either on paper or in a computer database is the status for verification of the crewmember. If the above processes have been stated in the procedures of recruitment of seafarers, the company does not need to establish such procedures separately (see Chapter 7.3.2, recruitment of seafarer).

6.13 Control of non-conforming product

These requirements can be understood as the control of non-satisfied seafarers and related services. The agency shall explain how to control these non-conformities including the non-satisfied seafarers and the non-conformities of

service process. The details will be described in Chapter 7.4, the procedures of control of non-conformities.

6.14 Corrective and Preventive action

The company shall explain how to perform the corrective and preventive actions in the quality system. The procedures of corrective and preventive action are to be established and maintained by the agency. The details are described in Chapter 7.5, the procedures of corrective and preventive action.

6.15 Handling, storage, packaging, preservation and delivery

These requirements are especially applicable for industrial production. To apply these requirements in a crew-manning agency, the management shall establish and maintain documented procedures for the despatch of seafarers. The details are described in Chapter 7.6, the procedures of despatch of seafarers.

6.16 Control of quality records

The agency shall explain how to control the records related to the quality system in order to verify that the system and procedures are followed and are according to the ISO 9002 international standard. The details are described in Chapter 7.7, the procedures of control of quality records.

6.17 Internal quality audits

The agency shall explain how to perform internal quality audits to verify the implementation of the quality system and to determine the effectiveness of the system. The company shall guarantee to provide qualified personnel to perform the audits and to support the follow-up actions decided by the top management. The details are described in Chapter 7.8, the procedures of internal quality audits.

6.18 Training

The company shall explain how to provide training to the employees and the seafarers to prevent unqualified personnel from performing activities affecting quality under these requirements. The details are described in Chapter 7.9, the procedures of training.

6.19 Servicing

These requirements only apply where the customer-supplier agreement includes post-delivery support for products or services.

The core business of a crew manning agency is to supply qualified seafarers to the customers to work onboard. In accordance with the contract between the agency and the principal, if the principal makes a demand on the agency to replace the seafarer(s) who are unfit for their duty or are lacking qualifications, the agency shall make immediately replacements available. These activities can be defined as “servicing” after delivery in ISO 9002 and have been identified in Chapter 7.4, the procedures of control of non-conforming seafarers.

6.20 Statistical techniques

These requirements do not apply to crew manning agencies.

Appendix 6.1. Sample of the definitions of a quality system

Definitions of Quality System

The agency – a crew manning agency

The principal – the customers of the agency including ship owners, ship managers and crew managers.

The crewing manager – the leader of crewing department of the agency

The seafarers – the sea personnel supplied by the agency

Quality – the ability of the crew manning agency to satisfy the existing and/or implied requirements from the principal

Manning agreement – the agreement between the agency and the principal

Crew contract – the contract between the seafarers and the agency on behalf of the principal

Table 6.1 Sample of a correlative list

ISO 9002 Requirements and Correlative List

No.	Requirements	Activities
4.1	Management responsibility	Organisations and responsibilities
4.2	Quality system	Quality system and documentation
4.3	Contract review	Manning agreement review
4.4	Design control (not applied)	Not applied
4.5	Document and data control	Document and data control
4.6	Purchasing	Recruitment and employment
4.7	Control of customer-supplied product	Not applied
4.8	Product identification and traceability	Seafarers identification
4.9	Process control	Communication and emergency
4.10	Inspection and testing	Verification and evaluation
4.11	Control of inspection, measuring and test equipment	Not applied
4.12	Inspection and testing status	Verification status
4.13	Control of non-conforming product	Control of non-satisfied seafarers
4.14	Corrective and preventive action	Corrective and preventive action
4.15	Handling, storage, packaging, preservation and delivery	Despatch of seafarers
4.16	Control of quality records	Control of quality records
4.17	Internal quality audits	Internal quality audits
4.18	Training	Training for office staff and seafarers
4.19	Servicing	Servicing after supply of seafarers
4.20	Statistical techniques	Not applied

Figure 6.1 Sample of an organisation chart of a crew manning agency

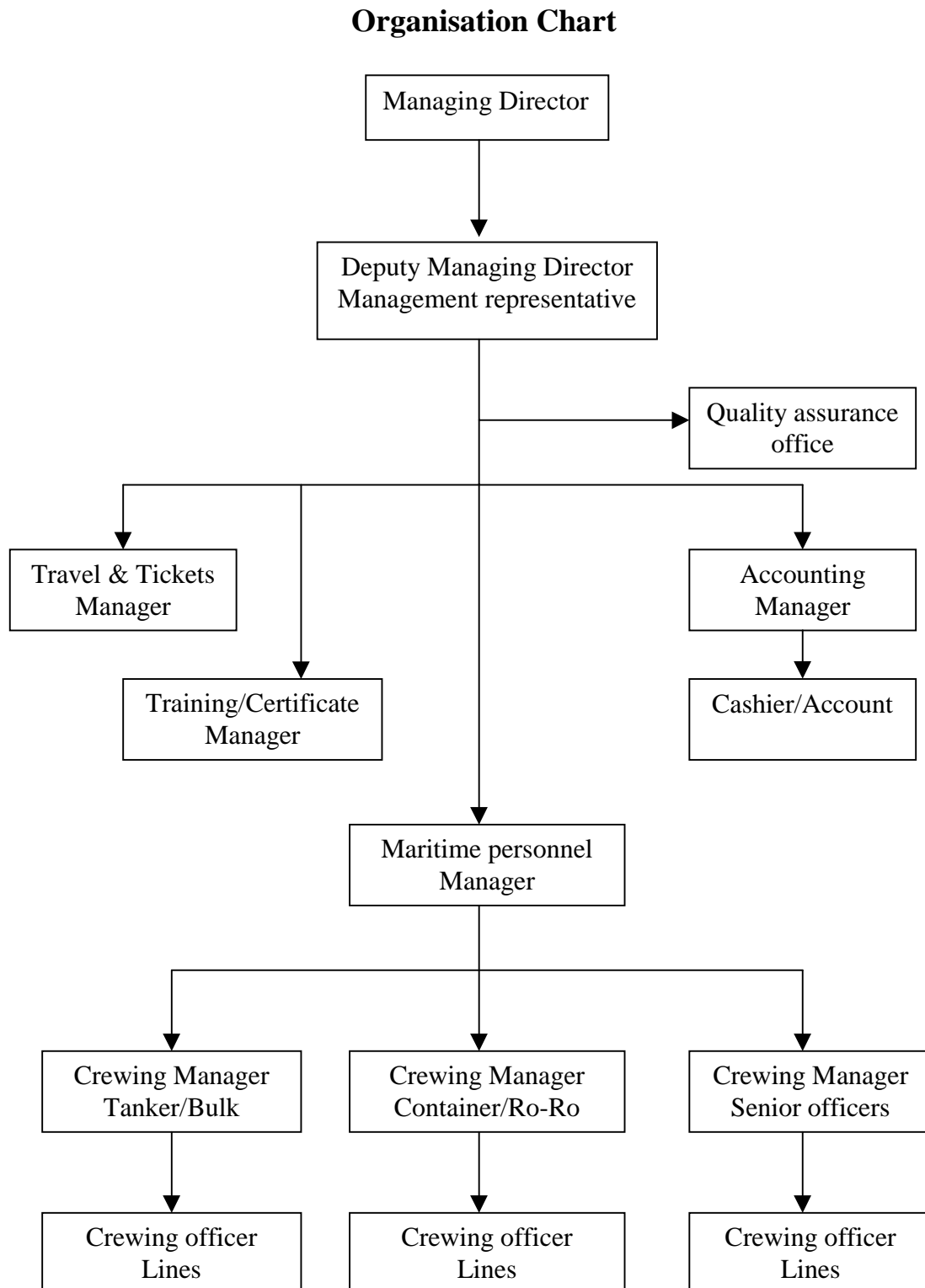


Table 6.2 Sample of an interrelationship chart of a crew manning agency

Interrelationship Chart

No	Requirements	Q.A. office	Travel Ticket	Training Cert.	Acc. Dept	Crewing Manager	Manage. Repres.
4.1	Management responsibility	*	*	*	*	*	*
4.2	Quality system	*					*
4.3	Contract review			*	*	*	*
4.4	Design control (not applied)						
4.5	Document and data control	*		*			*
4.6	Purchasing			*	*	*	
4.7	Control of customer-supplied product						
4.8	Product identification and traceability					*	
4.9	Process control		*			*	
4.10	Inspection and testing					*	
4.11	Control of inspection, measuring and test equipment						
4.12	Inspection and testing status					*	
4.13	Control of non-conforming product	*				*	*
4.14	Corrective and preventive action	*	*	*		*	*
4.15	Handling, storage, packaging, preservation and delivery		*	*		*	
4.16	Control of quality records	*	*	*	*	*	*
4.17	Internal quality audits	*					*
4.18	Training	*		*		*	*
4.19	Servicing		*		*	*	
4.20	Statistical techniques						

Appendix 6.2 Sample of a quality policy of a crew manning agency

QUALITY MANUAL

XXX CREW MANNING COMPANY

QUALITY POLICY

To supply our customers with qualified and well-trained ship personnel and relevant services to ensure the safe ship operation and protection of the marine environment.

In order to achieve this objective the following goals have been defined by the company.

- 1) *To man vessels with qualified and skilled seafarers complying with the updated international conventions and codes.*
- 2) *To plan and implement training programs as required by national and international regulations and according to the specific requirements of the customers.*
- 3) *To maintain a pool of seafarers for particular customers to secure the stability of personnel.*
- 4) *To make arrangements for employees to improve and increase their professional skills.*
- 5) *To plan crew complement in an efficient.*
- 6) *To maintain a good and professional relationship with all the relevant regulatory bodies.*
- 7) *To maintain and continuously improve the co-operation with and services to customers, existing and potential, and seafarers.*

To manage these goals certain measures have been taken as outlined and described in our quality system.

VERSION NR: 01

DATE OF ISSUE: 1998.01.01

DOCUMENT SERIES: QM001

AMENDMENT NR: 001

Chapter 7. Quality Procedures

7.1. The procedures of contract Review (ISO 9002 4.4)

In general, each occurrence of the dispatch of seafarer(s) to the principal shall be restricted and secured by an agreement. The crew manning agency agreement between the company and its principals defines the responsibilities, authorities, obligations and services of both parties. In order to ensure that the requirements are adequately defined and documented, differences between the parties are resolved, and the agency has the capability to meet the agreed requirements. Documented procedures for contract review has to be established and maintained. This is required by section 4.3 of ISO 9002. The procedures will ensure the following items form a crew manning agreement:

- 1) The language of the agreement must be acceptable by both parties.
- 2) The terms and conditions must be clear, i.e. selection, recruitment, training and despatch of seafarers.
- 3) For practical reasons, the terms and conditions of the seafarer's working onboard may be stated in an Employment contract or Crew contract as an Appendix to the agreement.
- 4) Regulations of compensation of injury, death or loss of abilities have to be stated clearly in the Employment contract.
- 5) The laws and regulations of compliance and arbitration terms are agreed and clearly stated in the agreement.
- 6) The termination of employment due to a force majeure, new owners, vessel being sold or otherwise disposed of total loss, requisition by government authority etc. should be taken care of in the agreement.
- 7) Urgent employment of sea personnel or individual replacement due to sickness, injury, hospitalisation etc. should be taken into account in the agreement.
- 8) Contradictions and/or discrepancies versus the quality policy and objectives should be avoided in the agreement.

- 9) The agreement should be prepared by appropriate functions, approved and signed by the person authorised by the top management.

During the performance of the agreement, the agency may need to amend the agreement according to changes in the requirements of customers, or due to some internal changes. For example, the ship owner may ask to add one more oiler onboard a particular ship in the next replacement. This means that part of the original agreement, the rank list, needs to be changed. Relying on ISO 9002 section 4.3.3 amendment to a contract, this change has to be correctly transferred to the relevant personnel and functions such as the crewing managers and the accounting department. The process of amendment has to be identified in the contract review procedure. It is of equal importance to identify the process of original contract. An identified process of amendment of contract prevents unauthorised changes being made to the agreed contracts. It also ensures that the required changes to seafarers or services are implemented promptly.

To conduct the procedures, the contract review forms are helpful to make sure that all the requirements have been verified and that the appropriate personnel have approved the contract. The forms are also the quality records of the procedures. The forms have to be maintained as well as the copies of the contracts. A sample of the contract review form of a crew manning agency is attached in table 7.1.

Every useful record of the procedures, such as telefax, phone call record, contract verification and approving forms, contract revision forms, original copy of contract and copy of contract have to be maintained and listed promptly.

7.2 The procedures of document and data control (ISO 9002 4.5)

The management of the agency shall establish and maintain documented procedures to control all documents and data related to the requirements of ISO 9002. The documents and data are to be reviewed and approved for adequacy by the authorised personnel before being issued. The procedures shall identify, but not be limited to the items below:

- 1) Appropriate copy of documents are available at all locations where operators can use and read them easily.
- 2) Invalid and/or obsolete documents are promptly removed from all points of issue or use.
- 3) Changes to documents and data are reviewed and approved by the same functions or personnel, unless specifically designated otherwise.
- 4) The content of the changes is to be identified in the documentation or the appropriate attachments.
- 5) The invalid and/or obsolete documents and data are destroyed promptly.
- 6) Any obsolete documents or data retained by the operators in their working place for legal and/or knowledge-preservation purposes are properly identified.

The documents and data in a crew manning agency can be divided into two types. One is internal documents and data, including the quality manual, the quality procedures, the working instructions, the quality forms, the seafarers documents (C.V., employment forms, evaluation forms), the customer information, electronic data etc. The other is external documents and data, such as national and international regulations and conventions, requirements of manning of the flag states etc. The company is to maintain the updated external documents in order to understand and comply with crew manning services. A master list of the documents and data is necessary for the procedures (See table 7.2, sample of a list of internal documents).

There must be a designated function to be in charge of the printing, issuing, distribution, amending, marks and destruction of the documentation of the agency. When a particular operational function requires changing the document, a specified procedure has to be applied. Normally, it is not needed to change the whole document but only one or several lines or pages in which the amendment takes place. If the agency uses a computer system to manage and store the documents or data, it has to take care of the security of the computer system and regulate the procedures or the working instructions used by the computer including the copying of data.

The issue status is very important to the documentation to secure the masters of the documents, to identify the types of the documents, and to classify the documents. The date of issue, revision number, amendment status, name of the document, and series of the document need to be identified on every page of the documentation. For practical purposes, page of approving, page of distribution controls and page of amendment status is also useful.

The documentation must be polished and treated by the same pencil or person before it is issued. The structures and the manner of writing in the documents need to be consistent. The following items could be considered in each documented procedure:

- 1) Purpose
- 2) Scope
- 3) Responsibility and authority
- 4) Working procedures
- 5) Supporting documents
- 6) Quality record
- 7) Checklist and forms

7.3 The procedures of recruitment of seafarers (ISO 9002 4.6 purchasing)

7.3.1. Definition

Section 4.6.1 of ISO 9002 states that “the supplier shall establish and maintain documented procedures to ensure that purchased product conforms to specified requirements”. What is meant by the “product” of a crew manning agency? In accordance with section 3.1 of ISO 9002, the product is defined as a “result of activities or processes”. It may include service, hardware, processed materials, software, or a combination. The service of a crew manning agency is to supply competent seafarers to the principals. In principle the product of a crew manning agency is service. The agency needs to recruit seafarers from academies, the labour

market, and other subcontractors. Recruitment and employment are considered to be the purchasing activities of a crew manning agency. In this way activities concerning both recruitment and employment have to apply to the requirements of purchasing in ISO 9002.

7.3.2. Recruitment of seafarers

The management of the agency shall establish and maintain procedures for selection and recruitment of seafarers. The procedures are written to ensure that the following, but not limited items, are conducted during the recruitment of seafarers:

- 1) Verification of the qualifications and experience requirements for each position on board under the manning agreement and the specified requirement of the principal.
- 2) Verification that each seafarer supplied to the principal has appropriate qualifications according to mandatory rules and regulations including national/international regulations, flag state regulations, conventions etc.
- 3) Verification of the good health of each seafarer in order to perform his/her duty onboard.
- 4) Verification that the seafarers can adequately understand key instructions in English and/or the commanding language.
- 5) Verification that the seafarers can adequately understand the ISM Code.
- 6) Verification of the correctness of the personal documents of the seafarers.
- 7) Ensure that the terms and conditions of the employment contract or crew contract have been explained to the seafarers and defined in the agreement between the company and the crew.

When the principal requires an interview with the seafarer(s), the company is to provide assistance. In the case that the seafarer(s) has been interviewed and accepted by the principal, the company also has the responsibility to verify, or to guarantee the qualifications of the seafarer(s).

To perform these verification activities, an appraisal system for the assessment of seafarers, checklists, forms, and schedules is useful.

7.3.3. Review of crew contract

Sometimes a crew contract is to be signed by the seafarer and the representative of the agency on behalf of the principals. This contract has to conform, at least, to the flag state requirement. Before the acceptance of a crew contract, the management of the agency has to review the contract to ensure that the requirement in the manning agreement about working hours, working conditions, responsibilities, welfare, salary and compensation items are adequately defined and documented in the contract.

If necessary, documented procedures for review of the crew contract could be established and maintained. This process can also be involved in the procedures of contract review (see Chapter 7.1, the procedures of contract review. Records of the review have to be stored and saved promptly. (see Chapter 7.7, the procedures of control of quality record).

7.3.4. Evaluation of subcontractors

The crew manning agencies need relevant subcontractors to supply other services such as crew training centres, simulator centres, travel agents, hospitals/clinics or approved doctors/medical personnel. Sometimes other crew manning agencies are needed to supply specially educated or trained seafarers that the agency can not supply. These subcontractors have to be verified so that they conform to specified requirements. The agency shall evaluate and select subcontractors on the basis of their ability to meet the requirements including the quality system and any specific requirements from the agency. Normally the evaluation of subcontractors is done once a year by the management. The crewing manager or other related functions have to establish and maintain the records of acceptable subcontractors. The principals should have the right to verify the

acceptance of subcontractors. The evaluation of subcontractors can be described in the recruitment procedures or be identified in a separate procedure.

7.4 The procedures of control of non-conformities (ISO 9002 4.13)

Although the activities of verification of seafarers have been defined in the procedures of recruitment of seafarers, the management also has to establish and maintain documented procedures to ensure that non-conformities, including non-satisfied seafarers and related services, are controlled under the requirements of ISO 9002. This is to prevent further recommendations or the supply of such non-conformities to the principal. This procedure could be named “Control of non-conformities” and shall include, but not be limited to, the following items:

- 1) To replace seafarer(s) when the crewing manager or other person in charge finds out that the documents of the seafarer(s) do not satisfy the specified requirements of the principals, or the documents of seafarer(s) are not authentic.
- 2) To replace seafarer(s) that the principal requires to replace in the stage of selection, verification, recommendation and working on board.
- 3) To identify the non-satisfied seafarer(s) that has been refused by the principal, repatriated due to bad performance or serious sickness onboard in the personal record in order to prevent recommendation or supply to the principal again.
- 4) To identify the non-satisfied seafarer(s) that has been considered by the crew manager who is not qualified to the particular principals or ships in the personal record in order to prevent recommendation or supply to the principal again.
- 5) To record any complaint from the principal against the services or personnel of the agency.
- 6) To analyse the causes of any non-conformities and define the corrective actions (see Chapter 7.5.1, The corrective actions).

In case the principal refuses or repatriates seafarer(s) due to misunderstanding, the crewing manager or other personnel in charge has the duty to

explain to the principal to change the decision. However, the principal has the final right to refuse or repatriate.

7.5 The procedures of corrective and preventive action (ISO 9002 4.14)

The agency is required to establish and maintain documented procedures for implementing corrective and preventive actions.

7.5.1. The corrective actions

The purpose of corrective action is to correct and/or eliminate the causes of actual non-conformities in the implementation of ISO 9002. The procedures of corrective action in crew manning agencies shall include, but not be limited to, the following items:

- 1) To respond to and effectively handle the complaints from the principals about the seafarers and related services. *(This is very important to the servicing industries such as a crew manning agency. Any complaint from the principals whether serious or not, has to be responded to immediately and corrected promptly. If the functions or personnel in charge can not give a satisfactory answer to the principal, an immediate response is needed to notify the principal that the matter has been attended to.)*
- 2) To ensure any non-conformity of seafarers or related services shall be reported to the proper personnel (the sea personnel manager, the crewing manager, the management representative etc.)
- 3) To investigate the cause of non-conformities relating to the seafarers, the services and the quality system by authorised personnel.
- 4) To ensure that the result of the investigation shall be recorded and maintained properly.
- 5) To define the corrective action to eliminate the cause of non-conformities, for instance, amending the procedures, adjusting the responsibilities and the organisations.

- 6) To ensure the corrective actions are effectively taken by suitable personnel or functions in time.
- 7) The above processes have to be observed and supervised by the management representative or other authorised personnel.

7.5.2. The preventive actions

The purpose of preventive action is to eliminate the causes of potential non-conformities in the quality system. The procedures for preventive action in a crew manning agency shall include, but not be limited to, the following items:

- 1) To use appropriate sources of information to detect, analyse and eliminate potential causes of non-conformities. *(The management or authorised personnel shall collect and analyse, timely or non-timely, information such as processes and work operations affecting the quality of seafarers and related services, concessions, audit results and recommendations, and complaints from the principals and the seafarers to find the potential causes of non-conformities.)*
- 2) To determine the steps in order to treat any problems requiring preventive actions, such as amending the documented procedures and the quality manual, changing the objectives of the agency, adjusting the organisations and the responsibilities, and adding some resources.
- 3) To implement the preventive action effectively.
- 4) To ensure that relevant information of preventive actions is submitted for management review (Refer Ch.6.2.3. 'Management review')

7.6 The procedures of despatch and travel of seafarers (ISO 9002 4.15)

To apply the requirements of ISO 9002 4.15 in a crew-manning agency, the management shall establish and maintain documented procedures for despatching seafarers (see Chapter 6.15, handling, storage, packaging, preservation and delivery).

In accordance with the manning agreement, the principal may require the agency to arrange joining and immigration documents for the seafarers to ensure that

they can travel to the relevant countries. The agency is also required, on behalf of the principals, to arrange the domestic travel from a seafarer's home place to the rendezvous place and also the international travel from the rendezvous place to the embarkation port. The procedures of despatch shall include, but not be limited to, the following actions:

- 1) To ensure that all seafarers, which are ready to embark onboard ship, hold valid international travel documents such as a passport, seaman book, valid visa, tickets and other necessary travel documents.
- 2) To prepare, if necessary, the application forms of seafarers for visa application.
- 3) To deliver the forms and assure the granting of the visa from the embassies.
- 4) To book the domestic and international travel for the seafarers by an acceptable subcontractor (see Chapter 7.3.4, evaluation of subcontractors).
- 5) To pick up the tickets and distribute them to the seafarers.
- 6) To keep a release with the local airline office to pick up the PTA tickets reserved by the principal.
- 7) Emergency situations should be considered properly (see Chapter 6.9.2, emergency).
- 8) To ensure qualified personnel perform the despatch processes.

7.7 The procedures of control of quality records (ISO 9002 4.16)

7.7.1. Quality records

The records relating to quality procedures shall be maintained in order to verify that the procedures are followed and are according to the ISO 9002 international standard. The agency shall establish and maintain documented procedures for indexing, collecting, filing, storage and disposition of quality records. The procedures of control of quality record in the agency shall include, but not be limited to, the following itmes:

- 1) To identify the quality records of each quality procedures (see Chapter 7.2, the procedures of document and data control).
- 2) To collect all quality records accordingly.
- 3) To store the quality records to approve that the agency was conforming the specified requirements from the principals and the ISO 9002.
- 4) To prevent damage and loss of records.
- 5) To identify the retention times, name list, classification, personnel in charge, and location of the records.
- 6) To make available the records for evaluation by the principal according to the manning agreement.
- 7) To retain and maintain all the records related to the seafarers as long as the seafarers are employed by the company for a couple of years (normally 2 to 3 years) after employment is terminated.

7.7.2. Seafarers records

The personal record of the seafarers shall be established and maintained for each seafarer recruited by the agency. The seafarer's personal record shall include, but not be limited to, the following items:

- 1) Personal records including name, sex, date of birth, place of birth, details of passport and visa, seaman book, certificates and licenses, health record, full address, next of kin etc.
- 2) Personal records including those for qualifications, experience and skills.
- 3) Personal records including employment details such as name of vessel, type of vessel, position on board, time on board and other contract details.
- 4) Appraisal forms or evaluation reports.
- 5) Training records.

The record may be in forms, photocopies, reports, and any other type of media on paper or in an electronic database.

7.8 The procedures of internal quality audits (ISO 9002 4.17)

The purpose of internal quality audits is to verify the implementation of the quality system and to determine the effectiveness of the system. Documented procedures are required by the ISO 9002 for planning and implementing the internal quality audits. Follow-up actions are also defined in the procedures.

The results of the audits are to be brought to the attention of the personnel having responsibility for the area audited. The personnel responsible for the area have to take timely corrective action on the deficiencies or non-conformities found during the audits.

7.8.1. The internal auditors

The management has to select personnel in the agency for different functions, to be trained as qualified internal auditors for implementing internal audits. The personnel selected should not be directly involved in the area being audited.

7.8.2. Internal audit planing

The management representative has to decide upon the internal quality audit plans once a year. These plans shall be approved by the top management. The audit plan has to cover and ensure the following items:

- 1) Each requirement of the ISO 9002 applying to the agency has to be audited at least once a year.
- 2) An audit team has to be formed consisting of qualified internal auditors, who are not directly involved in the area being audited, to carry out the audit(s).
- 3) The plans are normally discussed and approved in management review meetings.
- 4) The approved plans shall announce the related personnel and functions.
- 5) A notice of the audits, including time schedule, place, functions or activities, auditor list, relative documents and checklist etc., has to be sent to the functions

being audited several weeks before, for instance 2 weeks (See Table 7.3, sample of a notice of internal audits).

7.8.3. Follow-up action

Any deficiencies or non-conformities that have been found during the internal audit have to be brought to the attention of the personnel having responsibility for the area being audited. Normally, a deficiency or non-conforming notice is used to report to the person in charge. The personnel in charge are required to provide a plan of corrective actions for the non-conformities after a period of time. The corrective actions must be implemented in a required period of time (4 to 6 weeks for instance). The effectiveness of the implementation and the result shall be verified by the audit team and reported to the management representative (See table 7.4 ‘A sample of the report of non-conformities’).

The management representative has the responsibility to make a final report for each internal audit to the top management. These reports are very important as quality records for the management review and are necessary for corrective and preventive actions (see Chapter 6.2.3, management review and Chapter 7.5, the procedures of corrective and preventive action).

7.9 The procedures of training (ISO 9002 4.18)

7.9.1. Training of office employees

To prevent unqualified personnel from performing activities affecting quality, the agency is required to establish and maintain documented procedures to identify the needs of training and provide for the training of all these employees. The procedures of training of office employees in a crew manning agency are at least, but are not limited, to include:

- 1) To define necessary processes to recruitment qualified or competent personnel in the positions affecting the quality of seafarers and related services.

- 2) To ensure that fresh-hands engaging on special assigned tasks have to be properly trained.
- 3) To identify specified requirements for key positions such as the management representative, crewing managers, line superintendents, senior instructors, crewing officer etc.
- 4) To ensure that necessary training regarding the quality assurance principles, the quality system, the quality manual and the procedures are provided to relevant personnel.
- 5) To ensure and provide the necessary training related to new technology, new regulations/rules/conventions, and other related knowledge of maritime transportation to relevant personnel.
- 6) To draw up a training plan once a year.
- 7) To ensure appropriate records of the training are stored and saved promptly.

7.9.2 Training of the seafarers

Considering the concept of training in the ISO 9000 series, this topic could not be included in this section because the training requirements in ISO 9000 are only meant for personnel who execute activities governed by the quality system. Training of seafarers is not covered by the ISO 9000 series but it is covered by the ISM Code. So this section could also be included in the section of “process control” (see Chapter 6.9, process control).

However, the agency shall make provisions for adequate seafarer training according to the requirements stated in the manning agreement:

- 1) Use of approved or recognised shore-based training facilities or training programs.
- 2) Motivating seafarers to improve and update their qualifications related to their present position onboard.
- 3) Encouraging seafarers to up-grade their current qualifications (*for example, the agency shall provide assistance to the seafarers to organise relevant seminars*

about safety and environment prevention, navigation and cargo handling skill and so on).

- 4) Ensuring that the quality manual and the documented procedures for on board familiarisation with ship's machinery, equipment and systems are provided before the seafarers take responsibility onboard.
- 5) Ensuring that employment contract, or crew contract regarding to the working conditions, working hours, and responsibilities are agreed and understood by the seafarers.
- 6) To ensure that the training centres are approved by the maritime administration to comply with STCW'95 and accepted by the agency. (Refer Ch. 7.3.4. 'Evaluation of subcontractors')
- 7) The training need to be assessed by the crewing manager or other authorised personnel. (Refer Ch. 6.3 'Quality system')

The training may be divided into three categories:

- 1) Mandatory training courses. These courses depend on trade and position.
 - Basic safety course (STCW, MARPOL, SOLAS, ISM Code etc..)
 - Advanced fire-fighting course for officers
 - Radiotelephone course for deck officers
 - ARPA course for deck officers
 - COW course for deck officers working on tankers
 - GMDSS course for deck officers
 - Familiarisation courses for working on gas, oil and chemical tanker
 - Advanced course for working on gas, oil and chemical tanker
 - Crowd management training for working on Ro-Ro-Passenger ships
 - English language courses
 - Other courses as appropriate

2) Voluntary training courses

There are a variety of courses offered in the market. Some of these additional courses are often part of the manning agreement with the principal or may also be from the market strategy of general or individual requirements by the agency to the seafarers.

3) Onboard training

Onboard training is a major factor in effectively improving the qualifications of seafarers. The agency should pay more attention to this and keep relevant records.

Table 7.1 Sample of a contract review form

QUALITY PROCEDURES	XXX CREW MANNING COMPANY
--------------------	--------------------------

Contract Review Form

Contract series: 003598

Customer	<i>Top glory</i>	Vessel	<i>Top glory I</i>	Date	<i>01-06-1998</i>		
Type	<i>bulk</i>	Flag	<i>Panama</i>	Tonnage	<i>34500</i>	Crew	<i>23</i>
Items of Contract Review					Verification		
<i>The terms and conditions have been agreed by the parties clearly</i>					<i>Yes</i>		
<i>The terms and conditions are accord with the relevant law and regulations of the government</i>					<i>Yes</i>		
<i>The terms of seafarers working conditions have been stated in the agreement clearly</i>					<i>Yes</i>		
<i>The regulation of compensation have been identified clearly</i>					<i>Yes</i>		
<i>The low of compliance has been identified clearly</i>					<i>Yes</i>		
<i>The arbitration terms have been agreed by the parties</i>					<i>Yes</i>		
<i>The termination terms have been identified clearly</i>					<i>Yes</i>		
<i>The agent has the ability to perform this agreement</i>					<i>Yes</i>		
<i>The subcontractors are necessary</i>					<i>Yes</i>		
Valid period	01-07-98 to 01-07-99		Person in charge	<i>Wang hui</i>			
Crewing manager	<i>Zhao qin</i>			Date	<i>01-06-1998</i>		
Accounting manager	<i>Lei yintang</i>			Date	<i>09-06-1998</i>		
Managing director	<i>Li shanmin</i>			Date	<i>15-06-1998</i>		

VERSION NR: 01	DOCUMENT SERIES: QP001
DATE OF ISSUE: 1998.01.01	AMENDMENT NR: 001

Table 7.2 Sample of a document list of a crew manning agency

DOCUMENTS AND DATA CONTROL	XXX CREW MANNING COMPANY
----------------------------	--------------------------

The list of internal quality documents

No	Series No.	Name of documentation
01	QM01	Safety and quality manual
02	QP001	The procedures of contract review
03	QP002	The procedures of documents and data control
04	QP003	The procedure of subcontractors evaluation
05	QP004	The procedures of recruitment of seafarers
06	QP005	The procedures of despatch of seafarers
07	QP006	The procedures of emergency and communication
08	QP007	The procedures of quality records control
09	QP008	The procedures of internal quality audits
10	QP009	The procedures of the daily work of crewing department
11	QP010	The procedures of management review
12	QP011	The procedures of training in office
13	QP012	The procedures of training of seafarers
14	QP013	The procedures of control of non-conformities
15	QP014	The procedures of corrective and preventive action

VERSION NR: 01	DOCUMENT SERIES: QP002
DATE OF ISSUE: 1998.01.01	AMENDMENT NR: 001

Table 7.3. Sample of a notice of internal audits

QUALITY PROCEDURES	XXX CREW MANNING COMPANY
--------------------	--------------------------

Notice of Internal Quality Audits

Audits series: 0298

Functions	<i>Crewing dept.</i>	Cope and Purposes	<i>Contract review</i>	Date of audit	<i>03-11-98</i>
Referring Documents					
<i>The quality manual</i>					
<i>The procedures of contract review</i>					
<i>The procedures of internal audits</i>					
<i>The procedures of quality record control</i>					
Check List				Time	
<i>Understanding the manual and procedures</i>				<i>1330 – 1400</i>	
<i>Daily work records concerning contracting</i>				<i>1400 – 1430</i>	
<i>Quality record of contract review</i>				<i>1430 – 1445</i>	
<i>Amendment of contract</i>				<i>1445 – 1500</i>	
<i>Approval of contract</i>				<i>1500 – 1515</i>	
<i>Conclusion</i>				<i>1515 – 1530</i>	
Management reps.	<i>Shi jingmin</i> <i>19-10-1998</i>		Function Manager	<i>Zhao qin</i> <i>19-10-1998</i>	

VERSION NR: 01	DOCUMENT SERIES: QP008
DATE OF ISSUE: 1998.01.01	AMENDMENT NR: 001

Table 7.4. Sample of a report of non-conformities

QUALITY PROCEDURES			XXX CREW MANNING COMPANY		
Report of Non-conformities					
Internal audits series: 0298					
Date	03-11-1998	Function	Crewing dept.	Person in charge	Zhao qin
Non-conformities		Evidences and Reasons			
Amendment of contract		The salary of the chief officer of mv "Top glory" (contract 003598) was changed on 05. 10. 1998, but the accounting dept. has not received this amendment according to the procedures of contract review, as the person in charge forgot to notify the accounting dept. due to his negligence.			
Corrective Actions Identified by Function Manager					
I agree that this is negligence by our staff during the daily work. For correcting this non-conformity, the notice of this amendment will be sent to the accounting dept. today. I will supervise my subordinates to remember this experience and perform the procedures more strictly in the future.					
Date of completion		Results			
04-11-98		The accounting dept. has been notified of the amendment.			
Management Reps.	Shi jingmin		Function manager	Zhao qin	

VERSION NR: 01	DOCUMENT SERIES: QP008
DATE OF ISSUE: 1998.01.01	AMENDMENT NR: 001

Chapter 8. Development and recommendations

8.1 Development of a quality system

Before the establishment of a quality system, the management of the agency should analyse the present structure, culture, formal and informal management practices and address identified activities and functions important for the control of quality. The quality system should be structured and adapted to the agency's particular type of business, organisation, and activities etc. For a crew manning agency, as a simple service supplier, it is not necessary to adjust or widely re-structure the organisation. However, the interrelations and interfaces between functions must be analysed carefully and equitably re-arranged. The management must ensure that the system, including the documentation, is understood by all employees and performed effectively. The stated policies and objectives must be accomplished. To achieve these targets, adequate training is essential for all personnel affecting quality activities prior and during the establishment and the execution of the system.

The documentation must be relevant and reflect the agency's knowledge, experience and goals. It is better to have personnel who perform the particular functions to write the related documentation in order to be user friendly. The documentation is required to be simple and easily understandable. Before writing documents, the management or the quality team should utilise existing documentation and routines as far as appropriate.

The commitment and participation of the top management in the development and execution of the quality system is the most important factor in order to be successful. Top management must have the knowledge of how their own system is supposed to function and how to utilise the various instruments and tools built into the system to make it work for them according to the intentions outlined in the agency's policy.

Another key factor is to select a qualified management representative. The management representative must be familiar with the general situation of the

agency's business, the practical operation of seafarer supply, and must understand the ISO 9000 series. He or she is also required to have the essential ability of leadership and even good writing ability. A quality team is also necessary to establish, develop and execute the system. The members in the quality team (normally lead by the management representative) are responsible for the developing, implementing, maintaining and monitoring of the system, for instance internal audits, documentation and data control, quality record control etc. Obviously they need to know more in detail to keep the implementation effective.

Motivating people to change attitudes and habits to the new way of working is very difficult and challenging. This may often be the case when implementing a quality system in an organisation. Involvement is the most efficient way to motivate people. Suggestions or opinions of the users of quality procedures may be heard throughout the process. The users should also be given the chance to provide feedback to work performance decisions. This usually adds both motivation to change and credibility to the end result. For example, it is of the utmost importance to collect opinions and feedback from the users during the process of writing and performing the quality manual and procedures. It is also important to inform all employees about the plans and the progress, to explain why and how the agency implements the quality system.

Besides the ISO 9000 series, some other international quality standards have been developed specifically in the maritime industry. These specific standards also apply to a crew manning agency to ensure the quality of the agency. Examples of these standards are:

- ISM Code: International safety management code for safe operation of ships and for pollution prevention.
- ISMC Code: International ship manager's association code.
- SEP rules: DNV management of safe ship operation and pollution prevention.
- DNV rules for crew manning office.

The common distinguishing feature of these standards is to concentrate on the safety of ships and maritime pollution prevention, especially for the shipping companies, ship owners, ship managers, ship operators and crew managers. In the following section the author briefly introduces implementation of the ISM Code and the ISMA Code in a crew manning agency as recommendation.

8.2 Implementation of the ISM Code

It is not very difficult to establish and maintain a safety management system applying the ISM Code in an organisation on the basis of a successful quality assurance system applying ISO 9002 standards. Such a combined system could be named as a “safety and quality system”. When the system applies the ISM Code, it should help the crew manning agencies to understand specified requirements of the principals, to co-ordinate with the safety management system requirements of the principal, and to be more reliable to the principal.

It should be noted that compliance with the ISO 9002 standards does not ensure compliance with the ISM Code. Hence, a certification to ISO 9002 will not necessarily meet the International Safety Management Code.

The ISM Code is a compulsory standard for shipping companies, ship managers, ship owners, and ship operators. Nevertheless it is not a compulsory rule to the crew manning agencies. Some typical requirements of ISO 9002 are involved in the ISM Code. Table 8.1, comparison chart of ISM/ISO 9002, illustrates the details.

Actually, when the quality system in a crew manning agency was discussed in Chapters 6 and 7, some specified requirements of the ISM Code were considered and involved properly, for example, the emergency process (Chapter 6.9.2), and the communication requirements (Chapter 6.9.3).

To set up a safety and quality system in crew manning agencies, complying with the ISM Code and the ISO9002 standards, the following items have to be considered and implemented:

- 1) Accident report
- 2) Personal protection
- 3) Health protection, occupational health
- 4) Environment protection
- 5) Drug and alcohol policy
- 6) Mandatory rules, regulations and certifications
- 7) Insurance and claims
- 8) Experience feedback and safety & quality improvement

(See Table 8.1, the comparison chart of ISM/ISO 9002)

8.3 The ISMA Code

There is a ready-made safety and quality management system for the shipping industry including crew manning agencies. This system combines ISO 9002 and the ISM Code requirements for ship managers and crew managers. This is namely the International Ship Manager's Association (ISMA) Code.

Less than 10 years ago, a few reputable ship managers thought that although good ship managers operate safe, clean ships with all-motivated crews and responsible shore staff, there was a necessity to prove this to the outside world as well as to the industry itself. As a result, the International Ship Manager's Association (ISMA) was formed. This group of ship managers, all fiercely independent, competitive and spread between Hong Kong, Cyprus, Norway and the UK, set about producing a quality code and means of auditing which were both then unique and remain so today. That code grew to become the ISMA Code and was later reflected, to a very large extent, in what became the ISM Code. The similarity of the two codes is not surprising as both were developed through common sense and based on current safe working practices and previously established quality systems, e.g. ISO9002.

Today ISMA represents ship managers from 10 countries controlling a fleet of over 10,000 ships. One of the major goals of ISMA is to establish universal quality standards for ship management and operation. Therefore, the ISMA Code did

not concentrate solely on safety and pollution prevention like the ISM Code. The ISMA Code involved every element of the ship manager's business and therefore also includes all aspects of the ship operation including accounting, purchasing and the management agreement itself.

An audit body was appointed consisting of four of the class societies at the forefront of quality, namely DNV, GL, LR and ABS.

The ISMA Code is a "living" code, and one of the primary duties of the ISMA Code Committee is continually to review and, if necessary, to update the code in order to comply fully with the ISM Code, ISO9002 standards and specified requirements of a modern shipping industry. It is now possible to obtain the ISM Document of Compliance and the Safety Management Certificate at the same time as the audits are carried out for the ISMA Code certificate. The ISMA Code has been modified in order to make it suitable for crew managers, not only for ship managers as before. The code could be split into three sections for different purposes:

- 1) General – applicable to ship managers and crew managers
- 2) Manning – applicable to ship manager and crew managers
- 3) Technical – applicable to ship managers only

The second section probably is suitable for crew manning agencies to set up a safety and quality assurance system.

A brief comparison of elements covered by ISO9002, the ISM Code and by the ISMA Code is helpful to understand the differences between these standards (See table 8.2).

In conclusion, the quality standards essentially are frameworks or tools for the management to instigate a continuous improvement process in the organisation. Regardless of which standard is to be complied with in crew manning agencies, the concept of total quality management is common. Either the ISMA Code or the ISM Code was improved from the same basic principles. If a crew manning agency has

established a complete organisation and successful operational model, it is simple to implement any such safety and quality standards by doing the following items:

- saying what you do by writing it down
- doing what you have written down
- proving to external auditors that you do what you have written down

Table 8.1 Comparison Chart of ISM/ISO 9002

ISM CODE	ISO9002
General	4.2 Quality system
Safety and environmental protection policy	4.1.1 Quality policy
Company responsibilities and authority	4.1 Management responsibility
Designated person(s)	4.1.2.3 Management representative
Master's responsibility and authority	*
Resources and personnel	4.1.2.2 Resource, 4.1.8 Training
Development of plans for shipboard operations	4.2.3 Quality planning
Emergency preparedness	*
Reports and analysis of non-conformities and hazardous	4.13 Control of non-conforming product, 4.14.2 Corrective action 4.20 statistical techniques
Maintenance of the ship and its equipment	*
Documentation	4.3 Document and data control
Company verification, review and evaluation	4.1.3 Management review 4.17 Internal quality audits

Table 8.2 Comparison Chart of ISO 9002/ISM/ISMA

(Resource: Harry Gilbert, BIMCO REVIEW 1998)

PROCEDURES	ISO9002	ISM	ISMA
Business ethics or Management Policy	*	*	*
Organisation	*	*	*
Personnel	*	*	*
Contingency planning	*	*	*
Operational capability	*	*	*
Maintenance standard	*	*	*
Corrective action	*	*	*
Records	*	*	*
Document control	*	*	*
Internal quality audits	*	*	*
Safety		*	*
Environmental protection		*	*
Technical support		*	*
Certification and compliance rules	*	*	*
Cargo handling and cargo care		*	*
Communication procedure		*	*
Auditing body		*	*
Cost efficiency/purchasing/contract	*		*
Contract review	*		*
Management review	*		*
Quality system	*	*	*
Drug and alcohol policy			*
Insurance/claims			*
Accounting			*

Bibliography:

- Hoyle, D (1998). ISO9000 Pocket Guide. Oxford: Butterworth Heinemann.
- Stebbing, L (1993). Quality Assurance – the route to efficiency and competitiveness. Hertfordshire: Ells Horwood.
- Angas,G (1999). How have the changes in technology effected the quality and training of crew. Ship management forum 1999. London: IBC UK.
- Pekcan, C (1999). Crew retention: How and why. Ship management forum 1999. London: IBC.
- BIMCO/ISF (2000). Manpower update, Summary report. BIMCO/ISF.
- BIMCO/ISF (1995). Manpower Update. UK: University of Warwick.
- BIMCO/ISF (1990). Manpower Update. UK: University of Warwick.
- Cosco manning cooperation inc. (1998). Safety and quality manual. Beijing.
- Cosco manning cooperation inc. (1998). A standard agency agreement. Beijing .
- DNV (19??). Crew manning offices – system development guide. Oslo: DNV.
- DNV (1996). Rules for certification of crew manning office. Oslo: DNV.
- DNV (1993). Safety and quality management system – development and implementation. Oslo: DNV.
- ISO (1994). ISO 9002 standards. UK: ISO.
- IMO (1997). ISM CODE. UK: IMO.
- IMO (1995). STCW’95. UK: IMO.
- BIMCO. (1994). Standard crew management agreement. Copenhagen: BIMCO.
- UK P & I Club. (1996). The human factor. London: UK P &I CLUB.
- ISMA. (19??). ISMA: A commitment to quality. London: ISMA.
- Horck, J, (2000). Quality assurance (ISO9002) and other benchmark. Malmö: WMU.
- ISF. (1990). ISF Guide for International Maritime Labour. London: ISF.
- ISF. (19??). ISF manning agents policy. London: ISF.
- ISF. (1999). The ISF year 1999. London: ISF.
- Affeldt, J. (1999). Crewing flood subsidies. Fairplay Dec. 1999. UK: Fairplay.
- Fairplay. (1998). Shipmanagers Guide. UK: Fairplay.

O'neil, W,A. (1999). World Maritime Day. No.3 IMO NEWS 1999. London: IMO.

The Sea (2000). O'Neil boost for Philippines over STCW White list. The Sea, issue 144, London: The missions of Seaman.

Dearsly, D (1999). Fax, Dec 1999. London: ISF.

Dahl, S (1999). E-mail, Dec 1999. Oslo: Hoegh fleet services.

Preciouse, D (1999). The international manpower sence-late 1999. London: Preciouse Association Limited.

Lang, D (1997). Union People. BIMCO REVIEW 1997. Copenhagen: BIMCO.

Petersen, S (1997). The human element. BIMCO REVIEW 1997. Copenhagen: BIMCO.

Petersen, S (1997). The human element – where will the biggest pinch be? BIMCO Bulletin, Vol 94, 1997. Copenhagen: BIMCO.

Thorstensen, O (1997). The total quality management system. BIMCO REVIEW 1997. Copenhagen: BIMCO.

Whitlow, J (1998). The revised STCW convention – the seafarer's view. BIMCO REVIEW 1998. Copenhagen: BIMCO.

Chauvel, A (1998). Managing safety and quality in shipping. BIMCO REVIEW 1998. Copenhagen: BIMCO.

Piersall, C (1998). Requirements and standards of the ISO committee. BIMCO REVIEW 1998. Copenhagen: BIMCO.

Cilbert, H (1998). Shipmanagement 10 year on. BIMCO REVIEW 1998. Copenhagen: BIMCO.

Cremers, P (1999). Shipboard Management. BIMCO REVIEW 1999. Copenhagen: BIMCO.

Rodger, D (1999). Training successfully for the future. BIMCO REVIEW 1999. Copenhagen: BIMCO.

Muirhead, P (2000). Making STCW'95 work – the need for global cooperation. BIMCO REVIEW 2000. Copenhagen: BIMCO.

Schiferli, R (2000). Working towards ensuring ISM compliance. BIMCO REVIEW 2000. Copenhagen: BIMCO.

Olofsson, M (1997). Assessment of competence on board. Sweden: The Scandinavian Shipping Gazette, Oct. 1997.

Dombey, P (1995). How ship managers and owners can benefit from the ISM code. ICMT'95. Innovations in safety and environmental protection. London: Institute of Marine Engineers.

Hughes, D (1997). Ship management: no turning back from ISM code. shipping-safety measures. Lloyds' list Feb.13.

International Chamber of Shipping (1996). Guidelines on the application of the IMO International Safety management Code = ISM Code. London. ICS/ISF.

Martyr, P (1998). Enforcing the ISM code- today's the big day. Lloyd's List on Disk, July 01.

Lloyd's List on Disk (1997). ISM certification needs enforceable rules. Lloyd's List on Disk, Sept 01.

Dovles, G (1995). A 10 minutes guide on the IMO's ISM code. Limassal: CYMEPA.

MARNA (1999). Ship management: Living with ISM is tough on the little guy. Marine Log 104 (3) 51.

BIMCO (1998). The impact of ISM on Limitation of Liability. BIMCO Bulletin No.5, December. <http://www.bimco.dk/html/membership-area.htm>

Glen, D (1998). The ISM code compliance- a dying species. Lloyd's shipping Economist. 20 (10) 18.

Morris.A.P (1998).The ISM code compliance and thereafter. New Ship & Marine Technology into the 21st Century. 06, 451.

Lin Y.M (1992) Seafarer training and ship performance: a shipowner's view. International Manning and Training Conference, Manila. London: Lloyd's of London Press.